

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION V

DATE: AUG 29 1990

SUBJECT: Mound Plant RCRA Sites Operable Unit 7

FROM: Sally Averill  
RCRA Enforcement Branch

TO: Diana Malley  
RPM, CERCLA

The RCRA Enforcement Branch has completed its review of the Limited Field Investigation RCRA sites, Operable Unit 7 Workplan. We have the following comments and questions:


- 1) Operable Unit 7 only covers 50 of the possible 109 Solid Waste Management Units (SWMU's) and areas of concern identified by the A.T. Kerney report and the Federal Facilities Agreement. When and where will the remaining units be addressed?
- 2) Section 1.4.3.2 states that a more extensive investigation of volatile organic compounds in the groundwater is included in the Area B and Seeps Operable Units RI Plans. Since this material is not included in this report, I'll assume that it was adequate or else you made note of it already.
- 3) The maps are very difficult to read. Each map has North in a new direction, groundwater flow is difficult to trace from one map to another, and "area location" is difficult to correlate to anything. Perhaps label the dots so there is some bearing. Have all maps with North in the same direction and label the direction of groundwater flow.
- 4) Table 1.1 shows soil gas results for points 17 through 58. Are the constituents listed in this table the only constituents that the samples were analyzed for? For locations that are not shown here should we assume non-detect? Why were these the constituents of concern?
- 5) Were there any soil samples previously taken in the Operable Unit 7 area? If so, the results should be included in the discussion for each unit.
- 6) Table 1.2 does not include any data from monitoring wells 0122, 0111, 0063, 0155, 0154, 0071 & 0076. Why was this information excluded.
- 7) Was the QAPP for this site sent to our QA people?
- 8) Table 1.4 indicates that sampling was performed in 1987 & 1989. Have the results been submitted which verifies that no contamination exists?

- 9) The RCRA Facility Assessment (RFA) recommended sediment sampling for the asphalt-lined pond. Why wasn't it proposed?
- 10) Section 1.8.3 Drill Cuttings - Borehole cuttings and unused soil samples should not be returned to the borehole, it should be drummed, tested, and if contaminated shipped off-site.
- 11) Section 2.1 Underground Sewer Lines - When was the TV screening survey performed? Perhaps another one needs to be done. How old are the pipes? Where are the weak areas? Will samples be collected in the same places as they were for the 1987 DOE investigation? Why aren't the analytical results available from a 1987 investigation?
- 12) Section 2.3.2 Sampling Location - What will be considered accessible? What are the obstacles? All soil samples should be collected at least adjacent to and below the pipes. How deep are the pipes buried? Why will a grab sample be collected at G7?
- 13) The larger grid map does not have the same buildings identified as the smaller grids which makes it hard to determine where the pipes are located. Please clarify.
- 14) Section 3.1.2 Potential Sewage Disposal - Has the sludge in the sludge drying beds been tested using TCLP? What constituents were the sludge drying bed samples analyzed for in 1989?
- 15) The integrity of the sidewalls and bottoms of the following units should be determined: chlorine, contact chambers, clarifiers, aeration and equalization basins, and comminutor. If leaks are detected, subsurface soil sampling should be conducted to determine the magnitude of contamination.
- 16) Section 3.3.4 Sample Collection Protocol - Soil and sediment samples collected at the sanitary wastewater treatment plant at depths of 0 to 0.5 ft are not adequate. Samples must be collected at a depth adjacent to and below the sludge bed depth.
- 17) Section 4.1.2 Potential Sludge Drying Beds Contaminants - When will the analytical results from the September 1987 sampling be available? The Kearney 1988 report did not take samples, how is it known that hazardous waste and hazardous waste characteristics don't exist? Explain what, when, and where the samples were taken and what was the waste analyzed for.
- 18) Section 4.3 Field Investigation - It states that the sludge from the drying beds have been sampled and analyzed. What was it analyzed for? How many samples, etc.? If no hazardous waste is detected from these samples what is planned?
- 19) Section 5.3 Dredge Spoil Drying Beds - When was the area paved? Was the soil directly exposed to the spoils beds? Which field instruments will be used? If the area is paved how will samples be taken in areas where stained or discolored soil is observed? The depth of 0 - 6 inches is not considered adequate samples.

- 25) Section 6.3 Asphalt - Lined Pond - What constituents were analyzed for in the sediment from the pond? Compositing 20 plugs into one sample is not considered adequate for sampling the pond sediment. Please resample.
- 26) Section 7.1 Retention Basins - I would recommend checking the IT 87 report to see how the retention basins were sampled. If it is similar to the asphalt - lined pond, that's not adequate. What were the constituents which samples were analysed for in the IT 1987 study?
- 27) Section 8.2 Overflow Pond - Composite sampling is not adequate for sampling the overflow pond. What analysis was run on the composite sample? The field investigation must include samples of sediment from the bottom of the basin to determine whether hazardous constituents have been released to the underlying soil. Did our QAPP people review and verify previous analytical data yet?
- 28) Oil Burn Structure - Soil samples should be collected from the bottom of the unit to determine whether releases of hazardous constituents have occurred. Soil gas survey sampling locations need to be located around the oil burn structure.
- 29) Fire Fighting Training Facility - How much diesel fuel was used from 1987 until it closed? Where will the eight subsurface soil borings be located? The groundwater flow direction should be a factor.
- 30) Has the surface soil sampling with a spade and scoop (revision 2), soil boring (revision 2), soil and rock borehold logging and sampling (revision 2) been approved by EPA?
- 31) Building 72 Storage Area - Subsurface soil borings should be taken in the area where contamination is suspected. VOC's probably will not show up in samples of 0-6 inches.
- 32) Building 27 Concrete Flume - Determine the integrity of the concrete flume. If cracks exist, the underlying soil must be sampled to determine the integrity. Locate soil gas locations 51, 52 and 56 on Figure 14.1.
- 33) Thermal Treatment Unit - If there is not any evidence of ash or stained soil where will the sample be taken? Six inches is not deep enough for an adequate sample.
- 34) Spoils Disposal Area - Was the material disposed of in this area generated through any radioactive or hazardous waste activity? Are there any ground water monitoring wells in this area? If yes, did sampling indicate any contamination? Was a soil gas survey completed in this area? Any results?
- 35) Ventilation Hoods - Even though the Regional Air Pollution Control Authority regulates the air release, don't we look at the releases under CERCLA?

5HR-12:SAVERILL:ao:6-4439:8/16/90:MALLEY.MEM

INIT. DATE	TYP.	AUTH.	IL/IN TECH. ENF. SEC.	MI/VI TECH. ENF. SEC.	OH/MN TECH. ENF. SEC.	IL/MI/VI ENF. PROG. SECTION	IN/MN/ON ENF. PROG. SECTION	RCRA ENF. BR. CHIEF	O. R. A.D.D.	WMD DIR
		<i>[Signature]</i> 8/24/90	<i>[Signature]</i>		<i>[Signature]</i> for KLP 8-29					





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION V

Date: July 27, 1990

Subject: Mound Plant RCRA Sites, Operable Unit 7

From: Diana Mally *DM*

To: Sally Averill

As you are aware, the RCRA Sites (Operable Unit 7) work plan, dated April 1990, covers 50 areas at the Mound Plant. These areas were identified as possible Solid Waste Management Units in the RCRA Facility Assessment conducted by A.T. Kearney under contract with U.S. EPA in 1988. The work plan recommends no further sampling or action for the majority of these areas. I think it is important for everyone (Superfund, RCRA, Ohio EPA, and DOE) to agree early on which units can actually be dropped from further study, and which units will require some analysis before a no action decision (if appropriate) is made.

As I have already mentioned to you, a meeting at the Mound Plant is scheduled for August 16 and 17, 1990 to discuss and decide which areas of the RCRA Sites do or do not need further sampling. Although I would welcome your presence at the meeting, I understand if your schedule precludes you from attending. I would, however, like any input/suggestions you might have on the Operable Unit 7 work plan before the meeting. I will be leaving for Mound late in the afternoon on August 13, and would appreciate your comments prior to my departure.

Please call me if you have any questions at 3-6287.



State of Ohio Environmental Protection Agency

**Southwest District Office**

40 South Main Street  
Dayton, Ohio 45402-2086  
(513) 449-6357  
FAX (513) 449-6249

RECEIVED  
FEB 24 1989

OFFICE OF RCRA  
Waste Management Division  
U.S. EPA, REGION V

Richard F. Celeste  
Governor

February 21, 1989

Re: U.S.DOE-MOUND  
MONTGOMERY COUNTY  
HAZARDOUS WASTE  
OH6890008984

Mr. James Morley  
Area Manager  
U.S. DOE-Mound  
Dayton Area Office  
P.O. Box 66  
Miamisburg, OH 45342

Dear Mr. Morley:

On February 9, 1989, I met with Mr. Dick Blauvelt, Mr. Dan Carfagno, and Mr. Richard Janowiecki to discuss and inspect various Solid Waste Management Units (SWMUs) identified in AT Kearney's Preliminary Review/Visual Site Inspection Report for Mound. The purpose of my visit was to identify those SWMUs where RCRA activities (treatment, storage or disposal of hazardous waste) may have occurred or may be currently occurring. In many cases, the narrative provided by the AT Kearney report was insufficient to make this identification.

Messrs. Blauvelt, Carfagno, and Janowiecki were able to answer most of my questions regarding the sites of concern. However, we were not able to determine the status of some of the sites pending further investigation. We agreed that the best way to resolve this matter would be for me to request a written response from Mound regarding the status of these SWMUs. This letter serves as a formal request for this information.

I have listed below those SWMUs of concern.

<u>AT Kearney Unit #</u>	<u>Unit Name</u>
LF-4	Hillside Disposal Area
SI-4	Building 1 Leach Pit
SI-5	Building 27 Leach Pit
CS-1	Scintillation Vial Storage Area
CS-2	Building E Solvent Storage Shed
CS-3	Building 28 Solvent Storage Area
CS-4	DS Building Solvent Storage Shed
CS-5	Building B Solvent Storage Shed
CS-6	Waste Oil Drumfield

Mr. James Morley  
U.S.DOE-Mound  
February 21, 1989  
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CS-7	Hazardous Waste Storage Area
CS-8	Past Hazardous Waste Storage Area
CS-9	Radioactive/Mixed Waste Storage Area
CS-11	Drilling Mud Drum Storage Areas
CS-12	Building 27 Solvent Storage Area
CS-13	Outdoor Hazardous Waste Storage Area
CS-15	Building B Temporary Drum Storage Area
CS-18	WD Building Drum Staging Area
CS-19	SW Building Drum Staging Area
IN-1	Glass Melter Furnace
OB-1	Trash Burner
OB-2	Thermal Treatment Unit
OB-3	Retort (Rotary Kiln)
OB-5	Pyrotechnic Waste Shed
OB-7	Explosive Waste Storage Bunker
OB-8	Pyrotechnic Waste Disposal
UT-1	Waste Solvent Storage Tank
MI-9	Glass Melter Feed Drum
MI-14	Building 27 Concrete Flume

I will need the following information for each unit, when applicable, in order to properly identify its status under RCRA.

1. A brief description of the activities conducted in the units. Specify whether RCRA wastes are/were handled in some manner at each of the units.
2. For units no longer active, consider whether a RCRA permit would have been required for the activities that were conducted. Specify dates of closure for those units where the Kearney report was not specific.
3. For active units, consider whether a RCRA permit is required for the activity conducted. Provide justification as necessary.
4. For units that Mound considers to be covered under an interim status permit, indicate whether the unit is identified in the original Part A Permit submitted to the U.S.EPA, or is identified in a later revision of this Part A. When the unit is first identified in a permit revision, indicate the date of this revision.

Mr. James Morley  
U.S.DOE-Mound  
February 21, 1989  
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Please submit this information as soon as possible. If you have any questions or comments, please call me at (513) 449-6357.

285-6357

Sincerely,

*Paul D. Pardi*

Paul D. Pardi  
Solid & Hazardous Waste Management Unit

PDP/lal

TABLE 2

## WASTE ANALYSIS DATA FOR SOLVENT-CONTAINING WASTES (continued)

Waste Name	Blankrola solvent waste	Carbon disulfide	Waste freon 11	Waste freon and water
Waste No.	M-48	MT0-18	MT0-62	MT0-21
Components, %	Petroleum naphtha, 75-80 Perchloroethylene, 20-25 Chlorine, 13.9	Carbon disulfide, 100	Trichloromonofluoromethane, 100	Trichlorotrifluoroethane, 30-90 Water, 10-70
Physical State	Reddish-brown liquid	Faint yellow liquid	Colorless liquid	Liquid
Specific Weight (lb/gal)	7.9	10.8	12-14	8-14
Flash Point, °F	108	-22	>200	None
Other	Btu/lb: 16,820		Toxic	
Source/Comments	Print shop ink waste	Laboratory operations	Various operations	Various operations
EPA Waste Code	D001;F001	F005	F002	F002

TABLE 2

## WASTE ANALYSIS DATA FOR SOLVENT-CONTAINING WASTES (continued)

Waste Name	Ketone waste	LIX Solvent Waste	Waste methyl ethyl ketone	Waste methylene chloride
Waste No.	Waste No.	Waste No.	Waste No.	Waste No.
Components, %				
	MTO-25	MTO-35	MTO-20	MTO-17
	Methyl isobutyl ketone, 10-15 Methyl ethyl ketone, 10-25 Other solvents, 30-70	Mineral spirits, 70-80 Perchloroethylene, 10-20 1,1,1-Trichloroethane, 10-20	Methyl ethyl ketone, 80-100 Water, 0-20 Other organic material, 0-2 Chlorine, 0-1	Methylene chloride, 90-100 Water, 0-10
Physical State	Liquid	Liquid	Colorless liquid	Colorless liquid
Specific Weight (lb/gal)	8-12	8.8	6-10	10-12
Flash Point, °F	<60	<140	61-100	None
Other			8tu/lb: >8,000 Pb: 119 ppm	
Source/Comments	Various operations	Parts cleaning		
EPA Waste Code	F003;F005	D001;F002	F005	F002

TABLE 2

## WASTE ANALYSIS DATA FOR SOLVENT-CONTAINING WASTES (continued)

Waste Name	Waste organic solvent solution	Waste organic solvent solution	Tetrachloroethane waste	Trichloroethane waste
Waste No.	MTO-109	MTO-86	MTO-61	MTO-26
Components, %	Isopropanol, 40 1,1,1-Trichloroethane, 3.5 1,1,2-Trichloroethane, 4.2 Water, ~50 Chlorine, 7.6	Methylene chloride, 12 Mineral spirits/oil, 17 1,1,1-Trichloroethane, 6 Tetrachloroethylene, 5 Water, ~60 Chlorine, 22	Tetrachloroethane, 90-100 Water, 0-10	1,1,1-Trichloroethane, 90-100 Water, 0-10
Physical State	Liquid (2 phase)	Liquid	Colorless liquid	Liquid
Specific Weight (lb/gal)	7.9	8.6	10-15	10-12
Flash point, °F	<70	>180	Not combustible	None
Other	Btu/lb: 6,690	Btu/lb: 3,680		
Source/Comments	Metal cleaning operations	Cleaning operations	Various operations	Various operations
EPA Waste Code	D001;F002	D001;F002	U208	F002

TABLE 2

## WASTE ANALYSIS DATA FOR SOLVENT-CONTAINING WASTES (continued)

Waste Name	Trichloroethylene Waste	Trichlorotrifluoroethane waste	Paint Waste	Contaminated Soil
Waste No.	MTO-33	MTO-60	M-93	MTO-105; M-29
Components, %	Trichloroethylene, 90-100 Water, 0-10	Trichlorotrifluoroethane, 60-100 Water, 0-40	Acetone, 0-20 Toluene, 0-20 Ethanol, 0-15 1,1,1-Trichloroethane, 0-10 Tetrachloroethylene, 0-10 Chlorobenzene, 0-10 Mineral spirits, 0-20 Water, 0-40 Multilayer liquid	1,1,1-Trichloroethane, 0.4-18 ppm Trichloroethylene, 0.8-7.6 ppm
Physical State	Liquid	Colorless liquid		Sandy solid
Specific Weight (lb/gal)	12.5	10-15	5-10	10
Flash point, °F	None	Not combustible	10-140	None
Other		Btu/lb: >8,000		
Source/Comments	Various operations	Various operations	Paint shop operations	Soil near former Bldg. 72
EPA Waste Code	F002	F002	D001; F003; F005	F002



TABLE 2

## WASTE ANALYSIS DATA FOR SOLVENT-CONTAINING WASTES (continued)

Waste Name	Liquid waste from explosives production		
Waste No.			
Components, %	Range	Recent Composition	
M-134			
Acetone	0-100	1-25	
Ethanol	0-100	1-25	
Acetonitrile	0-100		
Tetrahydrofuran	0-100		
Methylene chloride	0-50		
Dimethyl sulfoxide	0-25		
Toluene	0-15		
Ammonium hydroxide	0-10		
Sodium hydroxide	0-10		
Diacetone alcohol	0-5		
Butyrolactone	0-5		
Water	0-100	75-99	
HMX, PETN, TATB, CP, sodium perchlorate	0-1	0-1 (HMX)	
Physical State	Liquid		
Specific Weight (lb/gal)	6-11	~8	
Flash Point, °F	0 to >160, or none	>160	
Source/Comments	Bldg. 27 operations		
EPA Waste Code	F003;F002; F005;D001	F003;D001	
NOTE: HMX = cyclotetramethylene tetranitrate			
PETN = pentaerythritol tetranitrate			
TATB = Triamino trinitrobenzene			
CP = 2-[5-cyanotetrazolato]pentaamine cobalt III perchlorate			

TABLE 2

## WASTE ANALYSIS DATA FOR MISCELLANEOUS IGNITABLE WASTES

Waste Name	Acetonitrile waste	Ammonium nitrate waste	Corezyn 1664 Waste	Organic Acid
Waste No.	M-132	MIO-12	M-57	M-92
Components, %	Acetonitrile, 100	Ammonium nitrate, 80-100 Water, 0-20	Unsaturated polyester, 61 Styrene monomer, 33 Triphenyl phosphate, 5 Dimethylamine, 0-0.1 Diethylamine, 0-0.1	Organic acid, 90-95 Water, 5-10 Free cyanide, <.05 ppm Free sulfide, <0.1 ppm PCB, 0 Total organic hydrogen, 1.24
Physical State	Clear liquid	Wet solid mass	Brown appearance	Yellow liquid
Specific Weight (lb/gal)	6.7	~14	~10	~10
Flash point, °F	42	N/A	87	<70
Other				Btu/lb: 3,862 pH: <2
Source/Comments	Research processes	Excess material	Resin process	Special operation
EPA Waste Code	D001	D001	D001	D001;D002

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION V

DATE: JAN 06 1989

SUBJECT: U.S. DOE's Environmental Survey, December 1988

FROM: David A. Ullrich *Dave*  
Associate Director, Office of RCRA  
Waste Management Division

TO: Basil G. Constantelos, Director  
Waste Management Division

As requested, a summary of the following U.S. DOE report was developed for the Fernald, Portsmouth, and Mound facilities:

U.S. Department of Energy  
Environmental Survey  
Preliminary Report of the Defense Production Facilities  
September 1988 (released December 6, 1988)

#### Background

U.S. DOE's Environmental Survey: Preliminary Summary Report of the Defense Production Facilities is the first report generated under a baseline inventory survey that was announced by U.S. DOE in September 1985. The purpose of this effort was to develop a baseline inventory of all U.S. DOE's major operating facilities' environmental problems and areas of risk. U.S. DOE Fernald, Portsmouth, and Mound facilities are three of 16 sites involved in defense production activities that were evaluated in this survey. The preliminary report presents a ranking of "potential impacts" within the 16 facilities. This ranking was developed with the use of a computer model and evaluates individual units (or findings) as to their environmental and health threats, not the threat presented by the overall facility.

Environmental samples were collected and analyzed as part of the survey, but none of the analysis was used in the ranking provided in the preliminary report. U.S. DOE had a deadline for the release of the report and did not get all of the results compiled in time. Also, some U.S. DOE staff have expressed serious doubt of the value of the data and the ranking.

#### Fernald (page 2-30)

The Fernald facility was the first facility evaluated in the survey. U.S. DOE requested that the RI workplan for the facility's production

area be delayed until results from the survey were available. Delays in issuance of the report forced U.S. EPA to require that the remainder of the RI workplan be submitted before the survey results became available. U.S. EPA has been requesting the data from this survey since May 1988. We were recently informed that U.S. DOE is preparing a briefing session in which the data will be presented to U.S. EPA. The value of the data will have to be evaluated by U.S. EPA. The sampling points were not surveyed or permanently marked and concerns over sampling protocols have been expressed by U.S. DOE. The data may have more a qualitative value than quantitative, but still may be useful in guiding the production area RI.

Of the 46 significant findings identified in the preliminary report, 19 were not ranked with the risk-based model. Some of the 19 findings were beyond the focus of the prioritization (compliance or management issues) or were not addressed by the model (pulmonary doses). The remaining 27 findings were ranked into 12 units and evaluated with the model. Of the 12 ranked units, 5 represent situations that could lead to potential future environmental problems:

- tank farm releases
- underground storage tank leaks
- thorium releases
- anhydrous hydrogen fluoride tank releases
- waste drum releases

The other scored units involve existing or suspected environmental problems:

- K-65 silos
- airborne releases from emissions
- contamination from liquid discharges
- contaminant releases from waste pits
- off-site direct radiation
- inactive ash pile
- perchloroethylene emissions

The highest scoring unit at Fernald is "Releases from K-65 Silos" because of the potential for inhalation of radon gas and its daughter products. The "airborne releases" represent stack emissions of several radionuclides, including plutonium-239 and 240; thorium-234, 232, and 230; and uranium-233, 234, 235, 236, and 238. The report states that the two next highest ranking units, liquid discharges and waste pit releases, represent infiltration and exfiltration of the storm water sewer system. Some of the rankings are substantiated by existing environmental monitoring data (stack emissions), while others were not (PCBs in flyash pile).

## Portsmouth

Although eight existing or suspected environmental problems were ranked in the survey report, all problems will be addressed in the corrective action agreement between U.S. DOE and U.S. EPA.

Three of the four highest ranking problems reported at Portsmouth were air releases. Previous reports by U.S. DOE did not indicate air releases being a significant problem. Therefore, a greater public concern over air releases at the site may develop as a result of this report. However, the chromium air releases (the highest ranked problem at the facility) may not be as significant as indicated, since a difference in technical opinions as to the appropriate risk figure is questioned in the report.

## Mound

The general comments on the survey as it relates to the Mound Facility, in Miamisburg, Ohio are as follows:

- ° While the information contained in the discussion is generally accurate, the survey did not cover some aspects considered important by U.S. EPA. For example, Volatile Organic Compounds (VOCs) in the groundwater was not included. The presence of VOCs has been confirmed by on-site data collected by the Mound Facility, but apparently was not included in the survey. By inspection of Tables ES-1 and ES-2 in the Survey document, this would be an area of concern of great weight to U.S. DOE but was not incorporated in the Survey. This is particularly true, for as the Survey document says "... the Mound Facility has a significant population at its boundaries".
- ° The RCRA Facility Assessment (RFA) documents 121 areas of concern. This is far different than the 9 areas identified in the Survey. There are ongoing negotiations for a CERCLA Section 120 Federal Facility Agreement. These negotiations are currently identifying between 85 and 100 separate areas of concern, with little disagreement between U.S. DOE/Mound staff, Ohio Environmental Protection Agency staff (OEPA) and U.S. EPA staff. This disparity is further evidence of the incomplete nature of the discussion on the Mound Facility in this report.
- ° While there are significant gaps in the survey analysis caused by the lack of incorporation of existing data at Mound, and the publication of this preliminary report prior to receiving the analysis of data collected by the DOE Survey Program, the incompleteness of this Preliminary Survey Report will not

affect clean-up of areas, due to the clear consensus between all parties (U.S. DOE, OEPA, and U.S. EPA) on all known areas of concern in the technical negotiations of the Federal Facility Agreement.

cc: David Kee (5A-26)  
William E. Muno (5HR-12)  
Mary Gade (5HS-11)  
Sally Averill (5HR-12)  
Jim Saric (5HR-12)  
Art Kleinrath (5HS-11)  
Bill Franz, (5ME-14)  
Graham Mitchell, OEPA - SWDO

Sally: your copy  
f.l.e

Information for March 16, 1989, Senate Hearing  
Mound Plant, Miamisburg, Ohio

1. U.S. DOE currently has five programs underway to study or clean-up portions of the Mound Plant. It is U.S. EPA's intent to encourage clean-up at discrete operable units at the Mound Plant. One of the readily apparent operable units is off-site. This is the abandoned Miami-Erie Canal beds (primarily plutonium contamination). Additionally, there are two other areas of concern for potential off-site migration of contaminants. These two areas are: (1) seeps from the hill on which the Mound Plant is located; and (2) general groundwater migration off-site (perhaps influenced by Mound production wells and municipal wells for the City of Miamisburg). U.S. EPA believes that these three areas can be addressed as operable units.
2. U.S. DOE has a scheduled program called D&D (Decontamination and Demolition) for cleanup of radioactive structures. This program is scheduled over a long time frame and could be shortened without loss of control or effectiveness. The radioactive soil contamination has been addressed in an ad hoc manner at Mound, and the time delay could be shortened by incorporating the soil and debris cleanup along with the cleanup of structures.
3. Timely implementation of the Section 120 CERCLA Federal Facility Compliance Agreement which U.S. EPA is currently negotiating with U.S. DOE for the Mound Plant may result in reducing overall costs by identifying necessary Interim Response Actions (IRA's). Implementation of these actions and acceleration of the environmental restoration for the entire site will result in more cost effective remedies.
4. A reasonable schedule for expediting cleanup at the site could be:

		<u>Dollar Amount</u>
<u>Year</u>		
1989	Study and begin FS for Miami-Erie Canal	1.0 M
	Study and FS for seeps and migrating groundwater	1.5 M
	Cleanup of radioactive soils, debris, and structures	6.0 M
1990	Interim Response Action (IRA) RD/RA Miami-Erie Canal	2.5 M
	IRA seeps and migrating groundwater (assume pump and treat)	2.0 M
	Cleanup of radioactive soils, debris, and structures	3.5 M
1991	RD/RA of seeps and migrating groundwater	3.0 M
	RA Miami-Erie Canal	4.5 M
	Clean-up of radioactive soils, debris, and structures	5.5 M

Contact: Art Kleinrath (CERCLA) 886-7254  
Sally Averill (RCRA) 886-4439



# EG&G MOUND APPLIED TECHNOLOGIES

P.O. BOX 3000 MIAMISBURG, OHIO 45343-0987 • TEL (513) 865-4020

November 11, 1988

U. S. Environmental Protection Agency  
Attn: Mr. Kae Lee  
RCRA Permitting Branch  
Region 5  
230 South Dearborn Street  
Chicago, IL 60604

RECEIVED  
NOV 18 1988  
OFFICE OF RCRA  
Waste Management Division  
U.S. EPA, REGION V

Dear Mr. Lee:

In a recent telephone call, you asked for clarification regarding a photo caption 6-24 contained in Attachment C of the RCRA Visual Inspection Report for Mound that was prepared for you by Pope-Reid Associates. Earlier, you had sent to me Section I, Executive Summary (pp 1-18), and Section VII, Summary of Suggested Further Actions (pp 227-242), of the VIR; however, we have not received the full report or Attachment C. The caption in question reportedly paraphrases comments made to Pope-Reid personnel by Dr. Daniel Carfagno of EG&G regarding the monitoring results observed at our monitoring installation on the north side of the plant. The caption reportedly indicates that measured tritium concentrations in our discharge water are typically in the range of 200 to 400 nanocuries per liter, which exceeds the EPA standard of 20 nanocuries per liter but is less than the DOE value of 2000 nanocuries per liter. You asked us to explain these terms and why the DOE value is one hundred times the EPA standard.

EPA's standard of 20 nanocuries per liter pertains to the maximum allowable concentration of tritium in drinking water. The concentration for tritium is derived from EPA's National Primary Drinking Water Standard for beta emitters, which is 4 millirems. DOE has concurred with that value. EPA has recently proposed to increase the allowable tritium concentration in drinking water to 90 nanocuries per liter.

As noted, the tritium concentration in the discharge water monitored at our hillside station typically ranges from 200 to 400 nanocuries per liter. This discharge water is not subject to EPA's drinking water standard because that water is not used for our drinking water, nor does it impact the drinking water anywhere offsite of our facility. We regularly monitor the tritium concentration in drinking water onsite and offsite, and those values do not exceed 20 nanocuries per liter for tritium. Therefore, we can conclude that the tritium in our discharge water does not cause our onsite drinking water or the drinking water in our surrounding community to contain tritium in excess of EPA's drinking water standard.

Based on recommendations issued by the International Commission on Radiation Protection, DOE has developed a standard for protection of the public from radiation exposure due to DOE operations. The DOE standard indicates that

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radiation exposure to the public should not exceed 100 millirems from all pathways; e.g., ingestion and inhalation. From this standard, Derived Concentration Guidelines (DCG) have been calculated for major pathways. For tritium in water, the DCG is 2000 nanocuries per liter. This means that if an individual drinks water with this concentration of tritium as the only source of water for one year he will have been exposed to 100 millirems of radiation. This DCG is a guideline or screening value for considering Best Available Technology for treating a radioactively contaminated stream prior to its discharge to a surface waterway. Best Available Technology treatment is not required for waste streams that contain radionuclides at concentrations of not more than the DCG value at the point of discharge to a surface waterway. Therefore, our discharge water, with its tritium concentration of 200 to 400 nanocuries per liter, does not need to be treated before being discharged to a surface waterway because it does not exceed to DCG for tritium in water, which is 2000 nanocuries per liter. However, our site policy is to keep the tritium concentration in our discharge water as low as reasonably achievable (ALARA) and below the guidelines.

Mound personnel use a very conservative calculation to determine on a regular basis the worst-case radiation exposure to an individual for all pathways. This exposure calculation assumes that an individual is exposed to the maximum concentration of tritium in his drinking water, in the air he breathes, and in the food he eats for a 365-day period. This worst-case total pathway exposure has been found to be less than one millirem, or less than one percent of the 100 millirem public protection standard set by DOE.

I have consulted with Dr. Daniel G. Carfagno in developing this letter. If you desire additional information, please contact me or contact Dr. Carfagno at FTS 774-3931.

Sincerely,

*Richard J. Janowiecki*

Richard J. Janowiecki  
Regulatory Specialist

RJJ:ar

5HS-JCK-13

FEB 5 1988

Lee Deets  
Technical Director  
A. T. Kearney, Inc.  
222 S. Riverside Plaza  
Chicago, Illinois 60606

Reference: EPA Contract No. 68-01-7374  
U.S. DOE Mound - Miamisburg, Ohio  
Work Assignment R25-01-21

Dear Mr. Deets:

I am requesting contractor assistance to conduct a preliminary review/visual site inspection at the U.S. DOE Mound - Miamisburg.

Please see enclosed Statement of work for further information.

We would like a Project Plan by February 22, 1988. Please have the Work Assignment Manager call Kae Lee at (312) 886-6192 prior to submitting the project plan to ensure accuracy and completeness.

If you have any questions, please call me at 353-1440.

Sincerely,

Pat Vogtman  
Region V Project Officer

Enclosure

cc: Jerry Gers

bcc: Judy Kertcher  
Mary Logan  
Kae Lee

5HS-13: P. Vogtman/Deets/em: 2/04/88: Disk 6 Item 17:

428-11

## U.S. DOE MOUND FACILITY

### Miamisburg, Ohio

The U.S. Department of Energy (U.S. DOE) Mound Facility encompasses 306 acres within the southern city limits of Miamisburg, Montgomery County, Ohio. Mound has been operating in support of U.S. DOE weapons and energy programs with an emphasis on explosives and nuclear technology since 1948. The facility currently employs 2,200 people, most of whom reside in the nearby Miamisburg and Dayton areas. The facility has been operated under contract by Monsanto Research Corporation until autumn of 1988 when EG&G began operating the facility.

Mound's geography consists of two elevated areas divided by a small valley which runs in a northeast-southwest direction through the site. The major waste disposal sites of concern are located on the south slope and valley of the northwest-elevated area. The major on-site waste disposal sites of concern include a landfill in which solvents, paints, photoprocessing and plating bath solutions were deposited; several leach beds used to dispose of solutions containing radionuclides and/or explosive/pyrotechnic materials; and an area in which a solution contaminated with plutonium was spilled. The landfill is known to have been operating from 1948 into the mid 1970's and at least one of the leach beds was known to be in operation at least 15 years.

The operating life and the quantity of wastes deposited are currently being investigated under DOE programs.

Operations at Mound have resulted in tritium and plutonium contamination of ground water and plutonium contamination of surface water near the site. In addition, references were found to volatile organics have been detected in the Buried Valley Aquifer (BVA). This aquifer is the source of drinking water for the onsite population and the city of Miamisburg. At least 17,000 persons are served by ground water drawn within a three mile radius of the facility.

The Mound site has been evaluated under Phase I of the U.S. DOE Comprehensive Environmental Assessment and Response Program (CEARP) which involves record searches and preliminary assessments. Phase II confirmation studies have been planned and are underway. Mound is currently under RCRA interim status and holds an NPDES permit for surface water discharges. Currently technical discussions to formulate a workplan for investigation and remedial action at the site are being held. This workplan will be part of a CERCLA Section 120 Federal Facility Agreement which will be based on the Headquarters negotiated and accepted language. This Agreement is being drafted and negotiated by U.S. EPA Region V in cooperation with the State of Ohio. The State has not made a final decision on whether they wish to be a party to this Agreement.

## MOUND PLANT SITE

### I. Site Description

- Located on 306 acres in Miamisburg, Ohio, about 10 miles south of Dayton. Located immediately adjacent to residences and a municipal park.
- Mound is an integrated research, development, and production facility. Operated for DOE by EG&G. Main mission is to manufacture both nonnuclear and tritium-containing components for nuclear weapons.
- Plant has been in continuous use since 1948. Facility is a generator and TSD for hazardous wastes and radioactive mixed wastes.

### II. Site Characteristics

- 109 potential release sites identified by RFA and various DOE surveys. Grouped into 8 operable units.
- Major waste areas include a landfill, several leach beds, and an area in which a solution contaminated with plutonium was spilled.
- Plutonium "spill" was trapped by the old Miami-Erie Canal bed in area of public access. No immediate concern due to natural deposition of covering sediments. *Wasn't there a removal done here?*
- Low levels of VOCs and tritium have been detected in the ground water at the site and just beyond the boundary of the site.

### III. Current Status

#### A. RI/FS

- Final on NPL November 21, 1989
- Three sets of RI/FS planning documents (site-wide, two operable units) received in April 1990. Currently undergoing review by U.S. and Ohio EPA.
- Expect to complete operable unit RI/FSs from 1991 through 1995.

#### B. Community/State Relations

- Mound has achieved notable success in their relationship with the Miamisburg community. Communications with the local community and news media have been open.
- OEPA continues to negotiate their agreement with DOE.

#### C. U.S. EPA/DOE agreement has been ready since January as result of October 31, 1989 meeting.

*- Resources are an issue.*

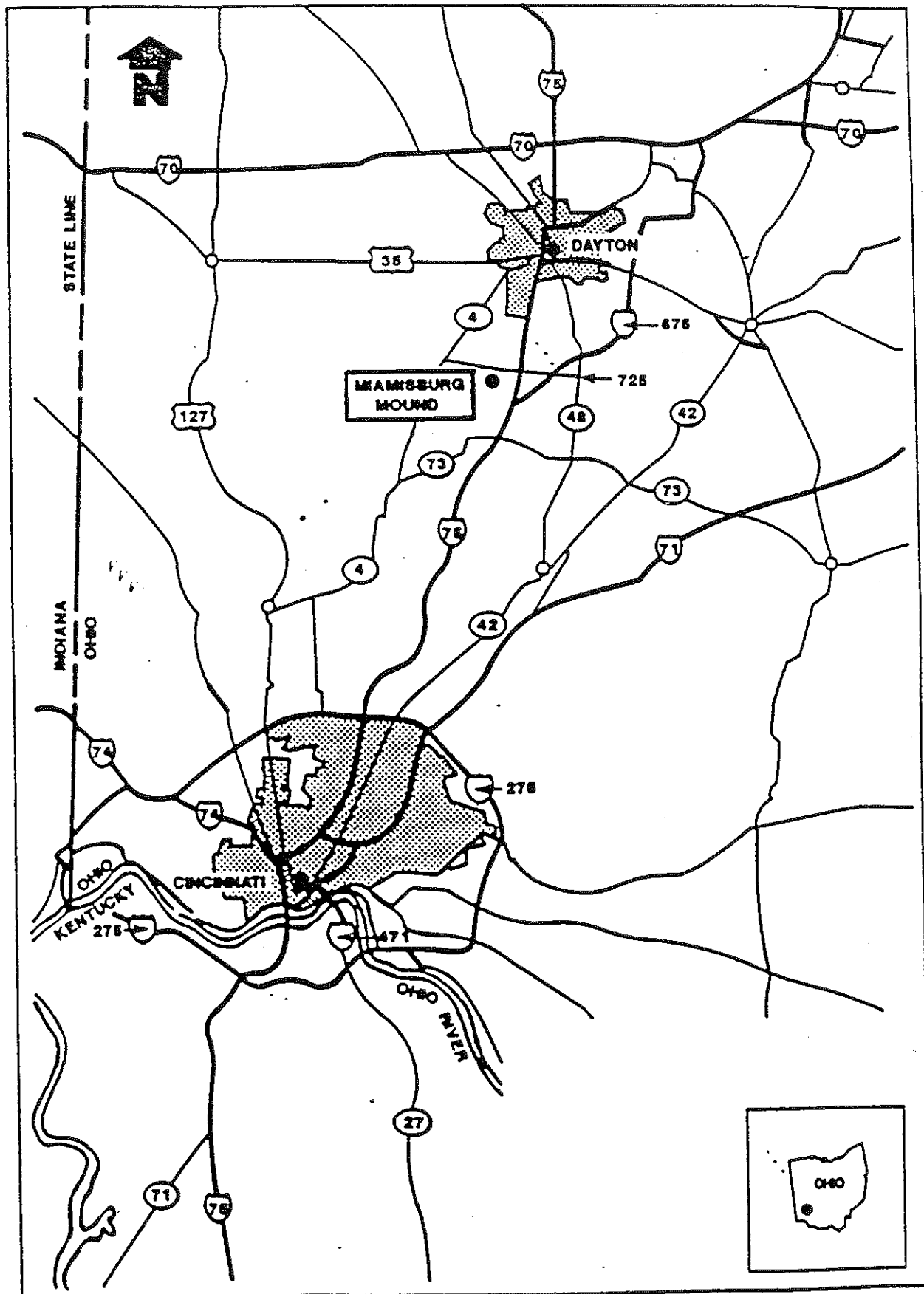
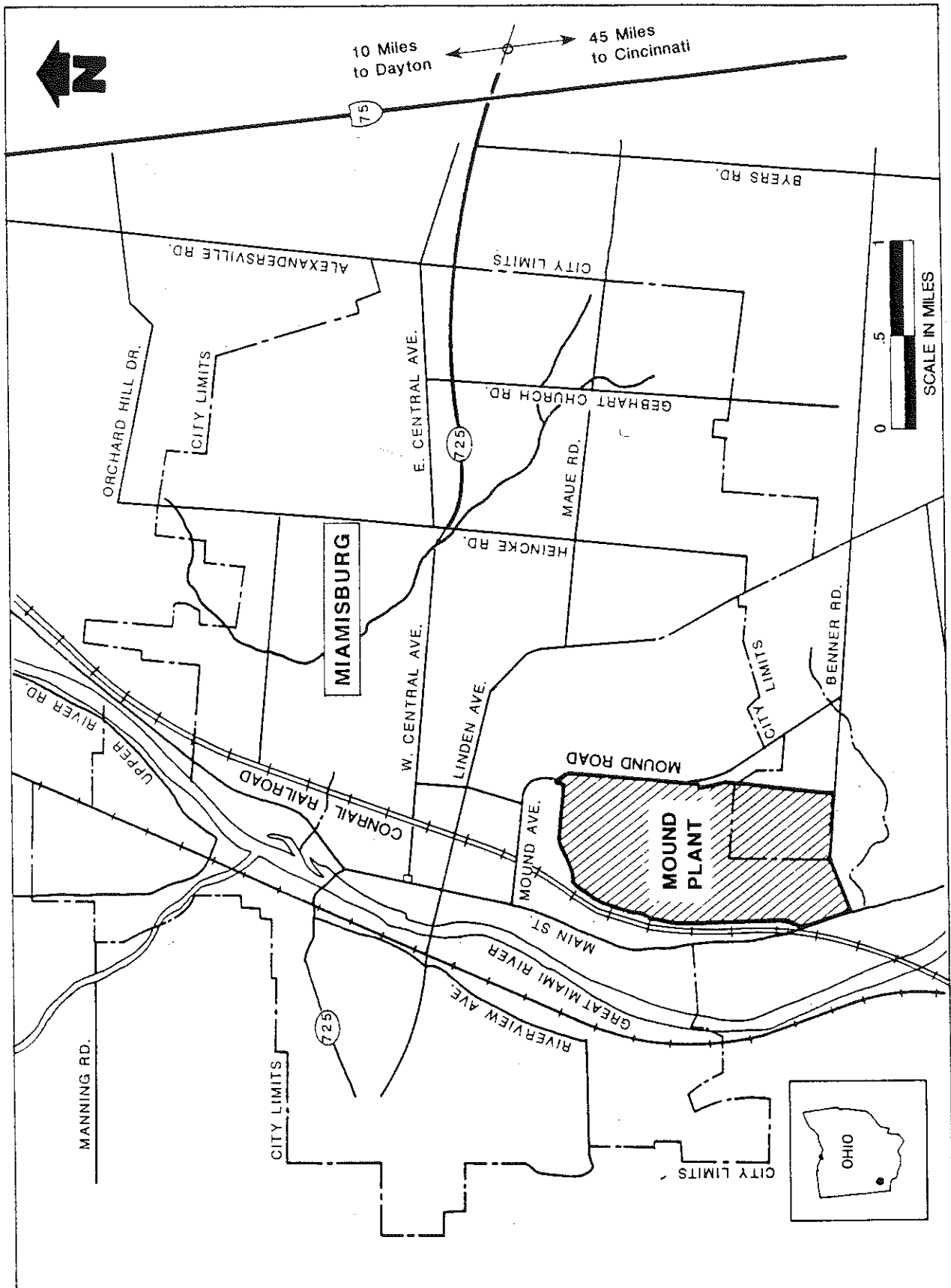
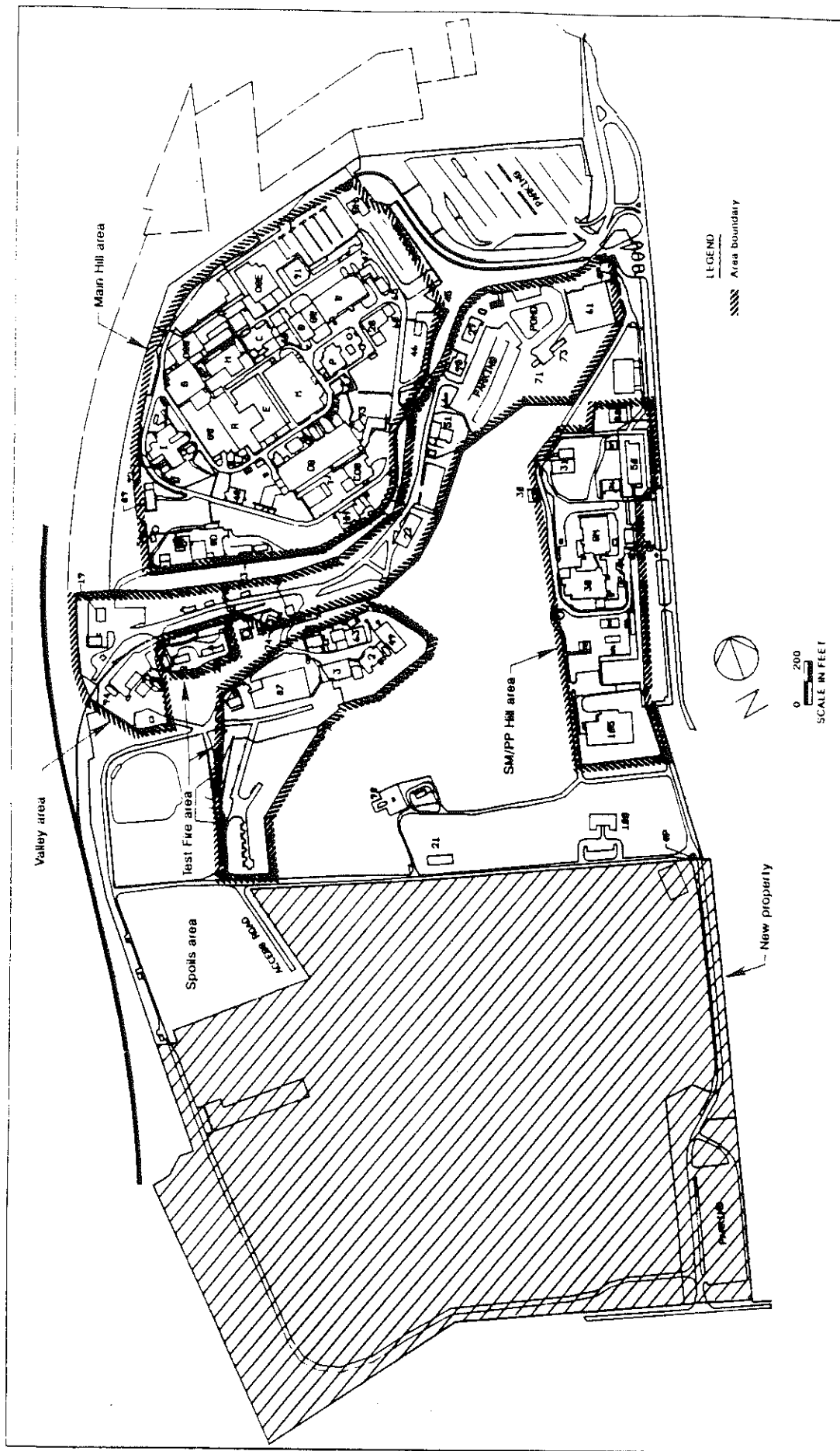


FIGURE 1.1. LOCATION OF THE MOUND PLANT







Mound Plant areas.

# FACILITY STATUS SHEET

FORM SUBMITTED:

BY: \_\_\_\_\_

DATE: M / D / Y

A. EPA ID: 101H161819101010181918141

FACILITY NAME: U.S. DOE MOUND FACILITY

A1. Entry type:

☐ New

☒ Update

A2. Facility type:

☐ Major

☒ Non-major

## 1. GROUNDWATER MONITORING

Status:

1A. ☐ Detection (Go on to 2)

☐ Assessment (Go on to 2)

☐ Waiver (Skip to 6)

☒ NA (Skip to 8)

	EVALUATED?	ADEQUATE?
2. Groundwater Monitoring Well System:	2A. <input type="checkbox"/> NE / M / D / Y	2B. <input type="checkbox"/> Yes / <input type="checkbox"/> No
3. Groundwater Sampling Analysis and Evaluation Program:	3A. <input type="checkbox"/> NE / M / D / Y	3B. <input type="checkbox"/> Yes / <input type="checkbox"/> No
4. Notice of Significant Increase in Indicator Concentrations:		4. Submitted? <input type="checkbox"/> No / <input type="checkbox"/> M / <input type="checkbox"/> D / <input type="checkbox"/> Y
5. Groundwater Quality Assessment Report:		5A. Submitted? <input type="checkbox"/> No / <input type="checkbox"/> M / <input type="checkbox"/> D / <input type="checkbox"/> Y
5B. <input type="checkbox"/> NE / M / D / Y	5C. <input type="checkbox"/> Yes / <input type="checkbox"/> No	5D. Showed hazardous constituents in groundwater? <input type="checkbox"/> Yes / <input type="checkbox"/> No
6. Waiver Demonstration:	6A. <input type="checkbox"/> NE / M / D / Y	6B. <input type="checkbox"/> Yes / <input type="checkbox"/> No
7. Groundwater Monitoring Records:	7A. <input type="checkbox"/> NA / NE / M / D / Y	7B. <input type="checkbox"/> Yes / <input type="checkbox"/> No
8. Activities Subject to CLOSURE/POSTCLOSURE:	<input type="checkbox"/> Landfill <input type="checkbox"/> Surface Impoundment <input type="checkbox"/> Land Treatment/Application	<input type="checkbox"/> Incinerator <input type="checkbox"/> Waste Pile <input checked="" type="checkbox"/> Other (Specify) <u>Container storage</u>

11/7/83



	EVALUATED?		ADEQUATE?		
9. Closure Plan:	9A.	<input type="checkbox"/> NA <input type="checkbox"/> NE Date: ____/____/____ M D Y	9B.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
10. Closure Cost Estimate:	10A.	<input type="checkbox"/> NA <input type="checkbox"/> NE Date: ____/____/____ M D Y	10B.	<input type="checkbox"/> Yes <input type="checkbox"/> No	10C. Amount: \$ ____ Unknown: <input checked="" type="checkbox"/>
11. Closure Assurance Instrument(s):	11A.	<input checked="" type="checkbox"/> NA <input type="checkbox"/> NE Date: ____/____/____ M D Y	11B.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	11C.	Instrument type(s): <input type="checkbox"/> Trust Fund <input type="checkbox"/> Financial Bond <input type="checkbox"/> Performance Bond <input type="checkbox"/> Letter of Credit <input type="checkbox"/> Insurance <input type="checkbox"/> Financial Test <input type="checkbox"/> Corporate Guarantee <input type="checkbox"/> State Guarantee <input type="checkbox"/> Other State Mechanism			
12. Post-closure Plan:	12A.	<input checked="" type="checkbox"/> NA <input type="checkbox"/> NE Date: ____/____/____ M D Y	12B.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
13. Post-closure Cost Estimate:	13A.	<input checked="" type="checkbox"/> NA <input type="checkbox"/> NE Date: ____/____/____ M D Y	13B.	<input type="checkbox"/> Yes <input type="checkbox"/> No	13C. Amount: \$ ____ Unknown: <input type="checkbox"/>
14. Post-closure Assurance Instrument(s):	14A.	<input checked="" type="checkbox"/> NA <input type="checkbox"/> NE Date: ____/____/____ M D Y	14B.	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	14C.	Instrument type(s): <input type="checkbox"/> Trust Fund <input type="checkbox"/> Financial Bond <input type="checkbox"/> Performance Bond <input type="checkbox"/> Letter of Credit <input type="checkbox"/> Insurance <input type="checkbox"/> Financial Test <input type="checkbox"/> Corporate Guarantee <input type="checkbox"/> State Guarantee <input type="checkbox"/> Other State Mechanism			
15. Sudden Liability Instrument(s):	15A.	<input checked="" type="checkbox"/> NA <input type="checkbox"/> NE Date: ____/____/____ M D Y	15B.	<input type="checkbox"/> Yes <input type="checkbox"/> No	15C. Amount? \$ ____ per occurrence \$ ____ annual aggregate
	15D.	Instrument type(s): <input type="checkbox"/> Insurance Policy <input type="checkbox"/> Financial Test <input type="checkbox"/> State Guarantee <input type="checkbox"/> Other State Mechanism			
16. Non-sudden Liability Instrument(s):	16A.	<input checked="" type="checkbox"/> NA <input type="checkbox"/> NE Date: ____/____/____ M D Y	16B.	<input type="checkbox"/> Yes <input type="checkbox"/> No	16C. Amount? \$ ____ per occurrence \$ ____ annual aggregate
	16D.	Instrument type(s): <input type="checkbox"/> Insurance Policy <input type="checkbox"/> Financial Test <input type="checkbox"/> State Guarantee <input type="checkbox"/> Other State Mechanism			

17. Closure Process:	17A. Process begun? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Date Begun: / / M D Y
18. Post-closure Process:	17B. In accordance with approved plan and required procedures? <input type="checkbox"/> Yes <input type="checkbox"/> No 17C. Closure certifications received? <input type="checkbox"/> Yes <input type="checkbox"/> No Date Received: / / M D Y 17D. Facility released from closure assurance and liability requirements? <input type="checkbox"/> Yes <input type="checkbox"/> No Date Released: / / M D Y 18A. Process begun? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Date Begun: / / M D Y 18B. In accordance with approved plan and required procedures? <input type="checkbox"/> Yes <input type="checkbox"/> No 18C. Survey plat/record of wastes received? <input type="checkbox"/> Yes <input type="checkbox"/> No Date Received: / / M D Y 18D. Post-closure period completed? <input type="checkbox"/> Yes <input type="checkbox"/> No Date Completed: / / M D Y 18E. Facility released from post-closure assurance requirements? <input type="checkbox"/> Yes <input type="checkbox"/> No Date Released: / / M D Y 19A. Called In? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Date Called: / / M D Y 19B. Reason for permit application call-in: <input type="checkbox"/> Groundwater <input type="checkbox"/> Financial Assurance <input type="checkbox"/> Closure <input type="checkbox"/> Liability Coverage <input type="checkbox"/> Other
19. Permit Application: Currently do not have an Ohio EPA permit to operate storage and open burning of hazardous waste.	
20. Comments	

A.T. Kearney, Inc.  
222 South Riverside Plaza  
Chicago, Illinois 60606  
312 648 0111

Management  
Consultants

April 13, 1988

**ATKEARNEY**

Ms. Pat Vogtman  
Regional Project Officer  
U.S. Environmental Protection Agency  
Region V  
230 South Dearborn Street  
Chicago, Illinois 60604

Reference: EPA Contract No. 68-01-7374; Work Assignment  
No. R25-01-21; U.S. DOE Mound; Miamisburg,  
Ohio; EPA I.D. Number OH6890008984; Final PR  
Report and VSI Agenda/Information Needs Letter

Dear Ms. Vogtman:

Enclosed please find the Final PR Report and VSI  
Agenda/Information Needs Letter for the above-referenced  
facility.

If you have any questions, please feel free to call me or  
William Rohrer, the Work Assignment Manager, who can be  
reached at 612/227-6500.

Sincerely,



Ann L. Anderson  
Assistant Technical Director

Enclosure (as stated)

cc: K. Lee, EPA Region V  
J. Levin  
J. Grieve  
J. Gers (w/o attachment)  
A. Williams (w/o attachment)  
W. Rohrer, PRA

/alw  
1461E

RCRA FACILITY ASSESSMENT  
VISUAL SITE INSPECTION AGENDA

FACILITY: U.S. DOE Mound  
Miamisburg, Ohio

EPA ID NO.: OH6890008984

FACILITY CONTACT: Dick Janowickie

DATES OF INSPECTION: May 3-6, 1988

PERSONNEL: Kae Lee, U.S. EPA Region V  
W.L. Murphy Rohrer, Pope-Reid Associates, Inc.  
S. Heikkila, Pope-Reid Associates, Inc.

PURPOSE OF THE VISUAL  
SITE INSPECTION

The Hazardous and Solid Waste Amendments of 1984 (HSWA) broaden the scope of EPA's authority under RCRA by requiring corrective action for releases of hazardous wastes and constituents at facilities that manage hazardous wastes. The authority requires corrective action for releases to the environment from any Solid Waste Management Unit (SWMU), including hazardous or non-hazardous wastes. The RCRA Facility Assessment includes a desk-top review of available file information of the facility, Visual Site Inspection (VSI), and, if necessary, a sampling visit. The preliminary review (PR) has been completed for this facility and a VSI has been determined to be necessary. The purpose of the VSI is to:

1. Confirm, by visual inspection, information collected during the PR;
2. Survey the site for additional SWMUs and other areas of concern, and identify potential sample points for possible future sampling activities; and
3. Review site information with facility representatives and collect additional information to address the information needs identified during the PR. Photographs are to be taken of all units and areas of concern.

Please note that the proposed agenda is based on information gathered during a desk-top review of the Ohio EPA files. Only units identified in the PR with

known locations are included in the proposed agenda. Many additional units have been identified but their specific locations are unknown. It is also likely that various SWMUs or processes have not been identified in the file review, or that one unit might be listed under two different names.

These issues will be resolved during the initial meeting on Day 1 of the VSI. A more efficient agenda may be arranged in order to assure that all SWMUs identified in the file review and during the VSI will be inspected.

A list of proposed SWMUs and other Areas of Concern is included in Tables 1 and 2, respectively.

## PROPOSED INSPECTION SCHEDULE

DAY 1 A.M. 8:30 a.m.-12:00 p.m.

Arrive at Facility

- o Introductory Meeting
- o Review Safety and Monitoring Protocol
- o Discuss Information Needs and Preliminary Findings
- o Revise Agenda as Needed

DAY 1 P.M. 1:00-5:00 p.m.

Hazardous Waste Storage Areas

Mixed Waste Storage Areas

Solid Waste Salvage and Reclamation

Wastewater Treatment Plant

DAY 2 8:30 a.m.-12:00 p.m.  
1:00 p.m.-5:00 p.m.

Thermal Treatment Units

Landfills

Surface Impoundments

DAY 3 SM/PP Area

Seeps and Past Spill Areas

Drainage Ditches

NPDES Outfalls

DAY 4 Waste Accumulation and Staging Areas in Production Areas

Miscellaneous Solid Waste Management Units

Other Areas of Concern

Debriefing

Table 1  
Solid Waste Management Units

1. Open Burning Area
2. Past Landfill 1
3. Waste Solvent Incinerator
4. Waste Solvent Incinerator Scrubber
5. Lined Landfill
6. Past Disposal Area 2
7. Past Disposal Area 3
8. Plant Drainage System
9. Drainage Flume
10. Waste Disposal Pipeline
11. Waste Disposal Facility
12. Retaining/Settling Basins
13. Solution Discard Areas
14. Wastewater Treatment Plant
15. Overflow Pond
16. Test Firing Tanks
17. Oil Burn Structure
18. Past Hazardous Waste Storage Area
19. Current Hazardous Waste Storage Area
20. Explosive Storage Area
21. Glass Melt Furnace
22. Fire Fighting Training Facility
23. Wastewater Treatment Plant Sand Filters (2)
24. Asphalt-Lined Pond
25. Concrete-Lined Ponds
26. Dredged Material Disposal Site
27. Spoils Area
28. Solvent Storage Shed
29. Process Area Solvent Storage Areas
30. Photoprocessing Waste Storage
31. Radioactive Mixed Waste Consolidation Areas
- 32/33. Building 23 Waste Staging Area
34. Stagnant Water Area
35. Leach Bed
36. Chromium Trench

Table 1 (continued)

37. Pyro Waste Disposal Area
38. Building 38 Hillside Disposal Area
39. WD Building USTs
40. Cooling Tower Basins
41. Recreation Ponds (2)
42. Pyrotechnic Waste Shed
43. Glass Melter Off-Gas Deluge Tank
44. Off-Gas Venturi Scrubber
45. Off-Gas Cyclone Demister
46. Off-Gas Recycle Tank
47. Iodine Adsorption Bed
48. Off-Gas HEPA Filter
49. Off-Gas Leaf Solution Filler
50. Strainer
51. WD Filter Bank
52. Retort
53. Building 90 Blockhouse
54. Thermal Treatment Unit
55. Biodegradation Unit
56. Drum Carts/Collection Vehicles
57. Solvent Leach Beds
58. Building 1 Leach Pit
59. Building 27 Leach Pit
60. Former Solvent Drum Storage Area
61. Building 28 Solvent Storage Area
62. DS Solvent Storage Shed
63. B Building Solvent Storage Shed
64. E Building Solvent Storage Shed
65. Sludge Drying Beds
66. Waste Oil Drumfield
67. Waste Solvent Storage Tank
68. Ventilation Hoods
- 69-71. Refuse Piles
72. Air Pollution Control Device
73. Solid Waste Salvage and Reclamation Building



Table 2

## Other Areas of Concern

<u>Name</u>	<u>Contaminant</u>	<u>Location</u>	<u>Volume/Area</u>	<u>Cause</u>	<u>Reference</u>
Plutonium Spill Area	Plutonium	See Figure V.1., Page V-19, Ref. 66	Unknown	Spilled Solutions	55
Paint Shop Spills	Paint, paint wastes	Soil adjacent to Paint Shop	Unknown	Leaks, spills, or dumping	55
Powerhouse Spills	Oil	Soil adjacent to Powerhouse	Unknown	Spills	55
WD Building Underground Tanks (4)	Radioactive Wastes	WD Building	Unknown	Corrosion Leaks (suspected)	55
Building 61 Spills	Waste Oil	Soil adjacent to Building 61	Unknown	Dumping (suspected)	55
Building 9 Spills	Waste Oil	Soil adjacent to Building 9	Unknown	Dumping	55
Valley-3 area	Sand Containing Cobalt-60	Between the Overflow Pond and Well No. 1	15,000 ft <sup>2</sup>	Contaminated Soil dumping area	81
Main Hill-6	Sand Containing polonium-210 and cobalt-60	North of Building 76 east of Building 65	2,100 ft <sup>2</sup>	Soil dumping area	81
SM/PP Hill-4	Thorium-238 contaminated dirt	West of Building 30	25,000 ft <sup>2</sup>	Dumping area for contaminated dirt	81
SM/PP Hill-5	Polonium contaminated concrete	West of Building 30	13,000 ft <sup>2</sup>	Dumping area	81

Table 2  
Other Areas of Concern (continued)

SM/PP Hill-6	Dirt containing thorium and plutonium	West of SM Building	19,000 ft <sup>2</sup>	Dumping area	81
Valley-4 Area	Polonium-contaminated concrete	Northeast of Building 49	9,000 ft <sup>2</sup>	Dumping area	81
SM/PP Hill-7	Soil contaminated with cobalt-60	Unknown	9,000 ft <sup>2</sup>	Dumping area	81
SW Building	Tritium	Releases from beneath the building	Unknown	Leaks	13
HH Building	Tritium	Releases from beneath the building	Unknown	Leaks	13
North Pond	Plutonium-contaminated runoff	East of north end of North Canal	Unknown	Spill	7
South Pond	Plutonium-contaminated runoff	East of north end of North Canal	Unknown	Spill	7

PRELIMINARY ASSESSMENT NEEDS FOR  
RCRA FACILITY ASSESSMENT

U.S. DOE Mound  
Miamisburg, Ohio  
OH6890008984

- o Provide flowcharts depicting the movement of waste through the Wastewater Treatment Plant, the Waste Disposal Facility, and any other waste treatment facilities not identified in this letter. Include the fate of both wastewater and sludge, indicate where wastes are generated, and identify any hazardous constituents present in the waste.
- o Provide the location of any waste accumulation, treatment, or disposal areas (historic or current) not identified in this letter. Include dimensions, capacity, dates of operation, materials of construction release control mechanisms, waste types, hazardous constituents and history of releases.
- o Identify waste management practices for waste streams generated in the past which differ from current waste streams such as those made due to changes in technology.
- o Provide a map of the site which will be suitable for locating all SWMUs identified in this letter and during the VSI.
- o Provide status of all on-going remedial activities.
- o Provide results of any health-risk studies of employees and nearby residents.
- o Identification of any units regulated under an NRC permit.
- o A reference was made in the file material regarding Pond 13 and Pond 17 but there was not sufficient information to determine whether these were Solid Waste Management Units. Provide the status of each of these units along with their location, dimensions, capacity, materials of construction, wastes handled, hazardous constituents, and release control mechanisms for these units.

- o Provide the location, dimensions, capacity, materials of construction, and release control mechanism for any sump, tanks, or other units used to store or treat boiler blowdown prior to discharge from the facility.
- o Specific information needs for all SWMUs identified in this letter are provided in Table 3.

TABLE 3. INFORMATION NEEDS FOR SPECIFIC SWMUS

	Status of Remedial Activities or Closure	Waste Quantity	Regulatory Status	Dimensions	Dates of Operation	Waste Analysis	Release Controls	Location	Sampling Results	Waste Disposition	Materials of Construction	History of Releases
1. Open Burning Area					o		o					o
2. Past Landfill 1			o	o					o			
3. Waste Solvent Incinerator			o			o	o			o	o	
4. Waste Solvent Incinerator Scrubber			o			o				o		
5. Lined Landfill	o		o	o	o	o	o	o				
6. Past Disposal Area 2	o		o	o		o	o					
7. Past Disposal Area 3	o		o	o		o	o					
8. Plant Drainage System			o	o	o	o	o		o		o	
9. Drainage Flume			o	o	o	o	o					
10. Waste Disposal Pipeline	o		o	o	o	o			o			
11. Waste Disposal Facility			o	o	o	o	o					
12. Retaining/Settling Basins	o		o	o	o		o			o		
13. Solution Discard Areas	o		o	o	o	o						
14. Wastewater Treatment Plant				o	o	o	o					
15. Overflow Pond		o		o		o	o				o	
16. Test Firing Tanks			o	o	o	o				o		
17. Oil Burn Structure			o	o	o			o			o	
18. Past Hazardous Waste Storage Area												
19. Current Hazardous Waste Storage Area		o					o					
20. Explosive Storage Area					o	o				o		

TABLE 3. INFORMATION NEEDS FOR SPECIFIC SWMUS  
(Continued)

	Status of Remedial Activities or Closure	Waste Quantity	Regulatory Status	Dimensions	Dates of Operation	Waste Analysis	Release Controls	Location	Sampling Results	Waste Disposition	Materials of Construction	History of Releases
21. Glass Melt Furnace					0							
22. Fire Fighting Training Facility				0	0	0	0					
23. Wastewater Treatment Plant Sand Filters (2)				0	0	0	0			0		
24. Asphalt-Lined Pond				0	0	0						
25. Concrete-Lined Ponds			0	0	0	0						
26. Dredged Material Disposal Site		0		0	0	0	0					
27. Spoils Area			0	0		0	0					
28. Solvent Storage Shed		0	0	0	0	0	0	0				
29. Process Area Solvent Storage Areas		0	0	0	0	0	0	0				
30. Photoprocessing Waste Storage		0	0	0	0	0	0	0				
31. Radioactive Mixed Waste Consolidation Areas	0	0	0	0	0	0	0	0		0		
32/33. Building 23 Waste Staging Area		0			0							
34. Stagnant Water Area	0	0			0	0		0	0			
35. Leach Bed	0			0	0	0						
36. Chromium Trench	0		0	0			0		0			
37. Pyro Waste Disposal Area	0	0	0	0	0	0	0					
38. Building 38 Hillside Disposal Area				0	0	0	0					
39. WD Building USTs	0		0	0	0	0			0		0	
40. Cooling Tower Basins				0	0	0		0		0		

TABLE 3. INFORMATION NEEDS FOR SPECIFIC SWMUs  
(Continued)

	Status of Remedial Activities or Closure	Waste Quantity	Regulatory Status	Dimensions	Dates of Operation	Waste Analysis	Release Controls	Location	Sampling Results	Waste Disposition	Materials of Construction	History of Releases
41. Recreation Ponds (2)			0	0	0	0	0		0			
42. Pyrotechnic Waste Shed			0	0	0	0	0					
43. Glass Melter Off-Gas Deluge Tank			0	0	0				0			
44. Off-Gas Venturi Scrubber			0	0	0						0	
45. Off-Gas Cyclone Demister			0	0	0		0				0	
46. Off-Gas Recycle Tank			0	0	0	0	0				0	
47. Iodine Adsorption Bed			0	0	0	0			0	0	0	
48. Off-Gas HEPA Filter			0	0	0		0		0	0	0	
49. Off-Gas Leaf Solution Filler			0	0	0	0			0	0	0	
50. Strainer			0		0	0			0	0	0	
51. WD Filter Bank			0	0	0	0			0	0		
52. Retort					0	0			0	0		
53. Building 90 Blockhouse		0	0	0	0	0	0				0	
54. Thermal Treatment Unit		0			0	0				0		
55. Biodegradation Unit		0			0	0	0	0	0			
56. Drum Carts/Collection Vehicles					0							
57. Solvent Leach Beds	0						0				0	
58. Building 1 Leach Pit	0	0					0				0	
Building 27 Leach Pit		0	0	0	0	0	0			0		

TABLE 3. INFORMATION NEEDS FOR SPECIFIC SWMUs  
(Continued)

	Status of Remedial Activities or Closure	Waste Quality	Regulatory Status	Dimensions	Dates of Operation	Waste Analysis	Release Controls	Location	Sampling Results	Waste Disposition	Materials of Construction	History of Releases
60. Former Solvent Drum Storage Area	0				0	0	0			0	0	
61. Building 28 Solvent Storage Area			0		0	0		0		0	0	
62. DS Solvent Storage Shed			0		0	0		0		0	0	
63. B Building Solvent Storage Shed			0		0	0		0		0	0	
64. E Building Solvent Storage Shed			0			0		0		0	0	
65. Sludge Drying Beds			0		0		0			0	0	
66. Waste Oil Drumfield			0			0				0		0
67. Waste Solvent Storage Tank	0		0		0	0		0		0	0	
68. Ventilation Hoods			0		0							
69-71. Refuse Piles			0	0	0	0	0					
72. Air Pollution Control Device					0				0			
73. Solid Waste Salvage and Reclamation Building			0	0	0	0	0					



PRELIMINARY REVIEW REPORT (PR)  
RCRA FACILITY ASSESSMENT (RFA)

1. Facility Name: U.S. DOE Mound  
EPA I.D. No. : OH6899008984  
Preparers : William L. Murphy Rohrer and Steven Heikkila  
Date : April 14, 1988

A. General Description of Facility and Processes:

The Mound facility is located within the corporate limits of Miamisburg, in southwestern Ohio (Figure 1). The 306-acre site is located approximately 10-miles south-southwest of Dayton. The principal function of the Mound facility is to manufacture non-nuclear and tritium-bearing components for nuclear weapons. Weapons assembly is conducted at another DOE facility. The Mound facility has been active since 1948 and is now operated by the Monsanto Research Corporation (MRC).

As described in the Environmental Survey Sampling and Analysis Plan (U.S. DOE, 1987), five major programs are conducted at the Mound facility:

- o Weapons Program - Activities associated with the weapons program include research, development, and production of: detonators; timers, transducers and switches; firesets; actuators; and nuclear components. Surveillance is also performed on various components of weapons taken from stockpile. In addition, 36 products on 9 different types of ordinance are procured for other sites involved in the program.
- o Stable Isotope Program - Development of isotope separation methods for biomedical applications, molecular science research, isotope separation research and development, stable isotopes inventory program and worldwide sales, and isotope separation by chemical exchange are the major efforts conducted within the stable isotope program.

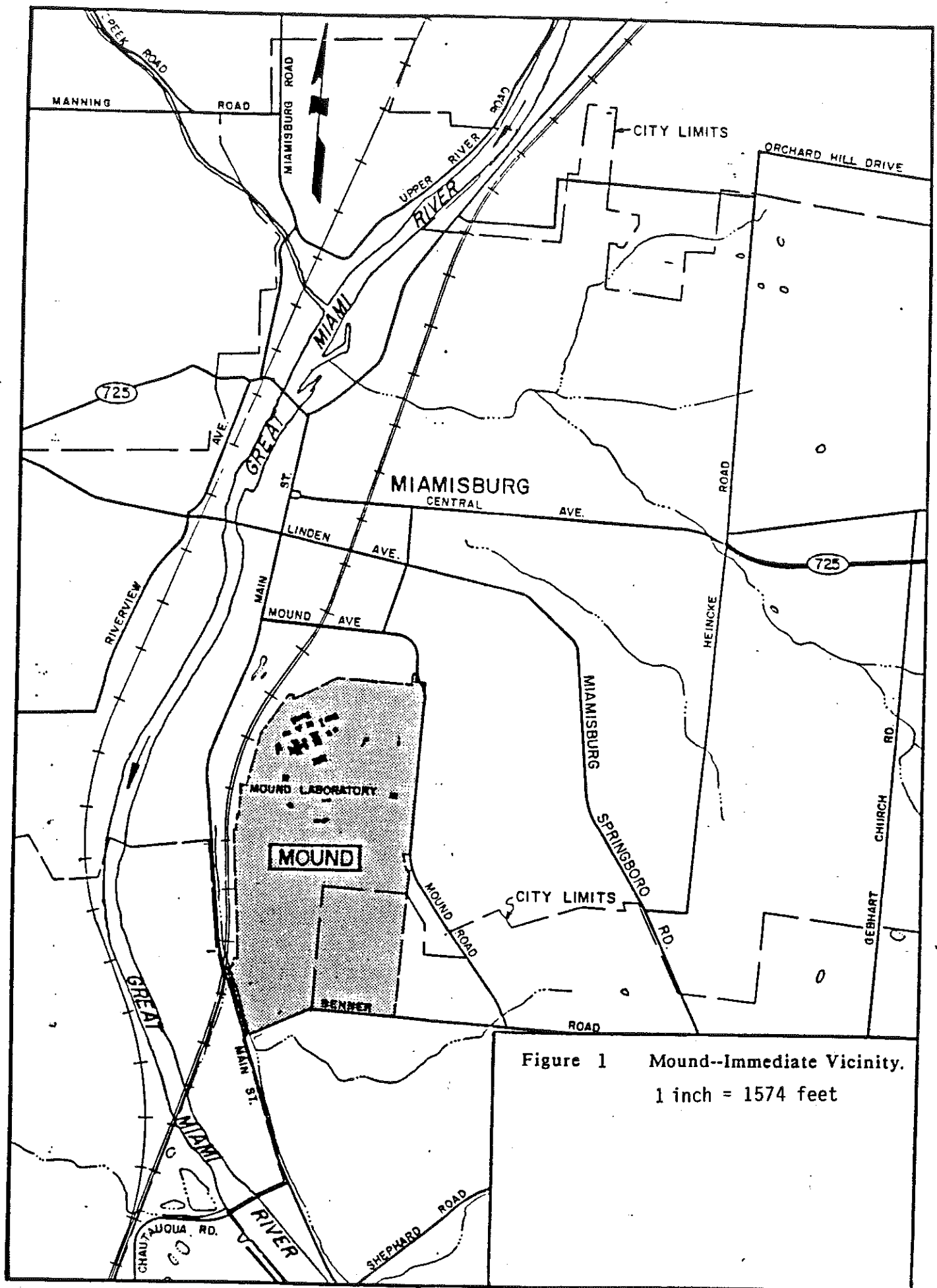


Figure 1 Mound--Immediate Vicinity.  
1 inch = 1574 feet

- o Safeguards Program - Mound's safeguards programs include research and development for nuclear measurement instruments and methodology, and provide site assistance for nuclear material accountability, and calorimeter reimbursable materials.
- o Heat Source Program - Mound's activities in the heat source program include hardware fabrication, radioactive module assembly, radioisotopic thermoelectric generator (RTG) assembly, and testing of heat sources of the production of electricity in space, in the ocean, and on land. Also associated with this program are the receipt and monitoring of spare flight RTG's after launches are completed at Kennedy Space Center.
- o Tritium Recovery Program - Mound receives scrap materials from other DOE sites and recovers and purifies the tritium for future use.

The USDOE Mound facility is a generator and TSDF for hazardous wastes and radioactive mixed waste. The Part B Permit Application pertains to the following storage and treatment activities:

1. Storage of containerized waste in Building 72;
2. Incineration of ignitable hazardous wastes and radioactive mixed waste in the Glass Melter, WD Building Annex;
3. Storage of containerized radioactive mixed waste in Building 23.

Table 1 from the Phase 1: Installation Assessment draft report, 1986 (Ref. 55) lists the RCRA regulated wastes managed at the facility.

U.S. DOE Mound submitted a RCRA Part A Application to USEPA Region V on August 15, 1980. A copy was sent to Ohio EPA on April 9, 1981. Revised versions of the Part A Application were submitted to Ohio EPA in November 1984, and January, March and May, 1985. A Part B Application was submitted by the facility on November 7, 1986.

As a result of a large spill of plutonium 238 waste in 1969, the State of Ohio submitted a demand letter (under CERCLA authority) for \$63,000,000 to

USDOE, MRC, and the Monsanto Company. Remedial activities were initiated soon after the spill and according to the Draft Phase I Installation Assessment Report (1986, Ref. 55), "subsequent studies and monitoring conducted by MRC [and] the State of Ohio . . . indicated that this is not a current or future threat to health or the environment and no further remedial action for this site is warranted." Negotiations between USDOE and the State of Ohio are continuing in an effort to resolve the issue.

The U.S. DOE Mound Site received a NPDES discharge permit from Region V USEPA in June 1975. NPDES-regulated effluent discharges are monitored at four stations at the facility.

Table 1  
Management of RCRA-Regulated Wastes

<u>EPA Hazard Waste No.</u>	<u>Estimated Annual Quantity of Waste (lb/yr)</u>	<u>Process Treatment Code</u>
D001	66,000	S01
F001	(included with D001)	S01
F003	(included with D001)	S01
F005	(included with D001)	S01
D002	18,000	S01
F007	(included with D002)	S01
F009	(included with D002)	S01
D003	4000	S01
D004	300	T04,T03
D005	300	S01
D006	1500	S01
D006	25	S01
D007	500	T03
D008	2000	S01
D009	12,000	S01
D010	100	S01
D011	20,000	S01
F002	15,000	S01
F003	20,000	S01
F004	300	S01
F005	5000	S01
F007	1000	S01
F008	1000	S01
F009	1000	S01
U003	2400	S01
U009	400	T03
U037	400	T03
U158	1500	T03
U211	400	S01
Misc.	50,000	T03
		S01

D001--A solid waste that exhibits the characteristic of ignitability, but is not listed as a hazardous waste in Subpart D.

F001--The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; and sludges from the recovery of these solvents in degreasing operations.

Table 1 (cont)

**F003**--The following spent nonhalogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; and the still bottoms from the recovery of these solvents.

**F005**--The following spent nonhalogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, and pyridine; and the still bottoms from the recovery of these solvents.

**D002**--A solid waste that exhibits the characteristic of corrosivity, but is not listed as a hazardous waste in Subpart D.

**F007**--Spent cyanide plating bath solutions from electroplating operations.

**F009**--Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.

**D003**--A solid waste that exhibits the characteristic of reactivity, but is not listed as a hazardous waste in Subpart D.

**D004**--Arsenic.

**D005**--Barium.

**D006**--Cadmium.

**D007**--Chromium.

**D008**--Lead.

**D009**--Mercury.

**D010**--Selenium.

**D011**--Silver.

**F002**--The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, orthodichlorobenzene, and trichlorofluoromethane; and the still bottoms from the recovery of these solvents.

**F004**--The following spent nonhalogenated solvents: cresols and cresylic acid, and nitrobenzene; and the still bottoms from the recovery of these solvents.

**F008**--Plating bath sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process.

**U003**--Acetonitrile

**U009**--Acrylonitrile

Table 1 (cont)

U037--Benzene, chloro-

U158--4,4'-Methylenebis (2-chloroaniline)

U211--Carbon tetrachloride

S01--Storage container

T03--Treatment incinerator. (Explosives are treated in an incinerator on an occasional as-needed basis; estimated annual quantity: 300 lbs; process capacity: 12 lbs per burn.)

A "cyclone incinerator" and a "glass melter" are developmental units used for hazardous waste treatment. The incinerator includes a single-stage cyclonic combustion chamber, a wet off-gas treatment system, and a high-efficiency filter. The glass melter includes a refractory chamber with molten glass over which waste is burned, a wet off-gas treatment system, and a high efficiency filter. Each unit has a design capacity of 50 lbs/h of organic waste.

T04--Treatment/Other. (Open burning of explosive-contaminated waste is conducted on an occasional as-needed basis; estimated annual quantity: 1,000 lbs; process capacity: 40 lbs per day. Detonators and pellets are treated in a retort (propane fired kiln) on an occasional as-needed basis; estimated annual quantity: 2,000 lbs; process capacity 0.33 lb per 30 seconds.)

Misc.--Periodic lab wastes, primarily having D001, D002, D003, and EP toxicity characteristics, but also including listed wastes in small quantities. The mix and quantity is dependent upon program requirements.

B. Information on Solid Waste Management Units:

<u>Unit</u>	<u>Release (yes/no/unknown/suspected)</u>
1. Open Burning Area	suspected
2. Past Landfill 1	suspected
3. Waste Solvent Incinerator	no
4. Waste Solvent Incinerator Scrubber	no
5. Lined Landfill	no
6. Past Disposal Area 2	suspected
7. Past Disposal Area 3	suspected
8. Plant Drainage System	yes
9. Drainage Flume	unknown
10. Waste Disposal Pipeline	yes
11. Waste Disposal Facility	unknown
12. Retaining/Settling Basins	unknown
13. Solution Discard Areas	suspected
14. Wastewater Treatment Plant	unknown
15. Overflow Pond	unknown
16. Test Firing Tanks	suspected
17. Oil Burn Structure	unknown
18. Past Hazardous Waste Storage Area	no
19. Current Hazardous Waste Storage Area	no
20. Explosive Storage Area	unknown
21. Glass Melt Furnace	unknown
22. Fire Fighting Training Facility	suspected
23. Wastewater Treatment Plant Sand Filters (2)	unknown
24. Asphalt-Lined Pond	unknown
25. Concrete-Lined Ponds	unknown
26. Dredged Material Disposal Site	suspected
27. Spoils Area	unknown
28. Solvent Storage Shed	unknown
29. Process Area Solvent Storage Areas	unknown
30. Photoprocessing Waste Storage	unknown
31. Radioactive Mixed Waste Consolidation Areas	unknown
32/33. Building 23 Waste Staging Area	unknown
34. Stagnant Water Area	suspected
35. Leach Bed	suspected
36. Chromium Trench	suspected



37. Pyro Waste Disposal Area	suspected
38. Building 38 Hillside Disposal Area	suspected
39. WD Building USTs	suspected
40. Cooling Towers	unknown
41. Recreation Ponds (2)	unknown
42. Pyrotechnic Waste Shed	unknown
43. Glass Melter Off-Gas Deluge Tank	no
44. Off-Gas Venturi Scrubber	no
45. Off-Gas Cyclone Demister	no
46. Off-Gas Recycle Tank	no
47. Iodine Adsorption Bed	no
48. Off-Gas HEPA Filter	no
49. Off-Gas Leaf Solution Filter	no
50. Strainer	unknown
51. WD Filter Bank	unknown
52. Retort	suspected
53. Building 90 Blockhouse	unknown
54. Thermal Treatment Unit	suspected
55. Biodegradation Unit	suspected
56. Drum Carts/Collection Vehicles	unknown
57. Solvent Leach Beds	suspected
58. Building 1 Leach Pit	suspected
59. Building 27 Leach Pit	suspected
60. Former Solvent Drum Storage Area	suspected
61. Building 28 Solvent Storage Area	suspected
62. DS Solvent Storage Shed	suspected
63. B Building Solvent Storage Shed	suspected
64. E Building Solvent Storage Shed	suspected
65. Sludge Drying Beds	suspected
66. Waste Oil Drumfield	suspected
67. Waste Solvent Storage Tank	suspected
68. Ventilation Hoods	suspected
69-71. Refuse Piles	unknown
72. Air Pollution Control Device	unknown
73. Solid Waste Salvage and Reclamation Building	unknown

- C. Monitoring Description (groundwater, surface water, etc.): A comprehensive monitoring program has been in place at the USDOE Mound facility since 1949. The monitoring activities of the MRC Environmental Control Program include sampling of air, water, food materials, soil, and sediment samples extending to a distance of 28 miles from the site. Analytes include hazardous constituents, radionuclides, and drinking water parameters. Table 2 (Ref. 55) summarizes the sampling frequency and analytical parameters included in the various monitoring programs. Locations of the sampling activities are shown in Figures 2 to 4.
- D. Environmental Setting: The U.S. DOE Mound facility (Figure 5) is almost entirely located within the City of Miamisburg. The 1980 Census reported a population of 15,300 (Ref. 73). The principal land use within 5 miles of the facility is residential. Approximately 1,500 to 2,000 feet from the western plant boundary is the Great Miami River. The sanitary wastewater, stormwater, and radioactive wastewater systems ultimately drain to this river.

The facility is underlain by limestone and shale of Ordovician age. The Great Miami River Valley is filled with up to 150 feet of glacial outwash sands and gravel. A thin layer of fluvial clays, silts, and fine gravel caps the valley fill deposits. A 5-foot thick layer of glacial till (comprised of clays, silts, and fine gravel) overlies the bedrock in the upland areas.

The depth to groundwater is relatively shallow at the facility, however the permeability of near-surface soils is relatively low (generally .63 to 2 in/hr). The major aquifer in the vicinity of the plant is the Buried Valley Aquifer, comprised of the valley fill outwash deposits. Municipal and industrial pumpage from this aquifer has resulted in such extensive drawdowns that the Great Miami River is now a recharge source. Miamisburg City Well 2 is located near the western property boundary of the Mound facility.

Facility operations have resulted in a long history of environmental degradation to surface waters and groundwater. The reported con-

Table 2  
MRC Environmental Monitoring Program

	<u>Sampling Frequency</u>	<u>Parameter Measured</u>
Air Surveillance		
Offsite		
15 locations	Weekly	HTO, Pu, particulate
Onsite		
5 locations	Weekly	HTO, Pu, particulate
Stack Emission		
15 locations	Daily	HT, HTO, Pu, U
Water Surveillance--Offsite		
River		
5 locations	Daily	HTO, Pu, U
Pond		
7 locations	Monthly	HTO, Pu, U
Municipal Drinking Water		
12 locations	Quarterly	HTO, Pu
Well Water		
5 locations	Monthly	HTO, Pu
Water Surveillance--Onsite		
Effluent Water		
3 locations	Daily	Flow, suspended solids, BOD <sub>5</sub> , fecal coliform, pH, oil and grease, COD, residual chlorine, dissolved solids, cyanide, chromium, cadmium, nickel copper, HTO, Pu, U
Sediment Surveillance--Offsite		
River		
5 locations	Quarterly	Pu
Pond		
7 locations	Quarterly	Pu
Vegetation and Foodstuff Surveillance		
Vegetation		
3 locations	Semiannually	HTO, Pu
Foodstuffs		
3 locations	Annually	HTO, Pu
Environmental Level Surveillance		
Four Mediums		
6 locations	Quarterly	HTO, Pu

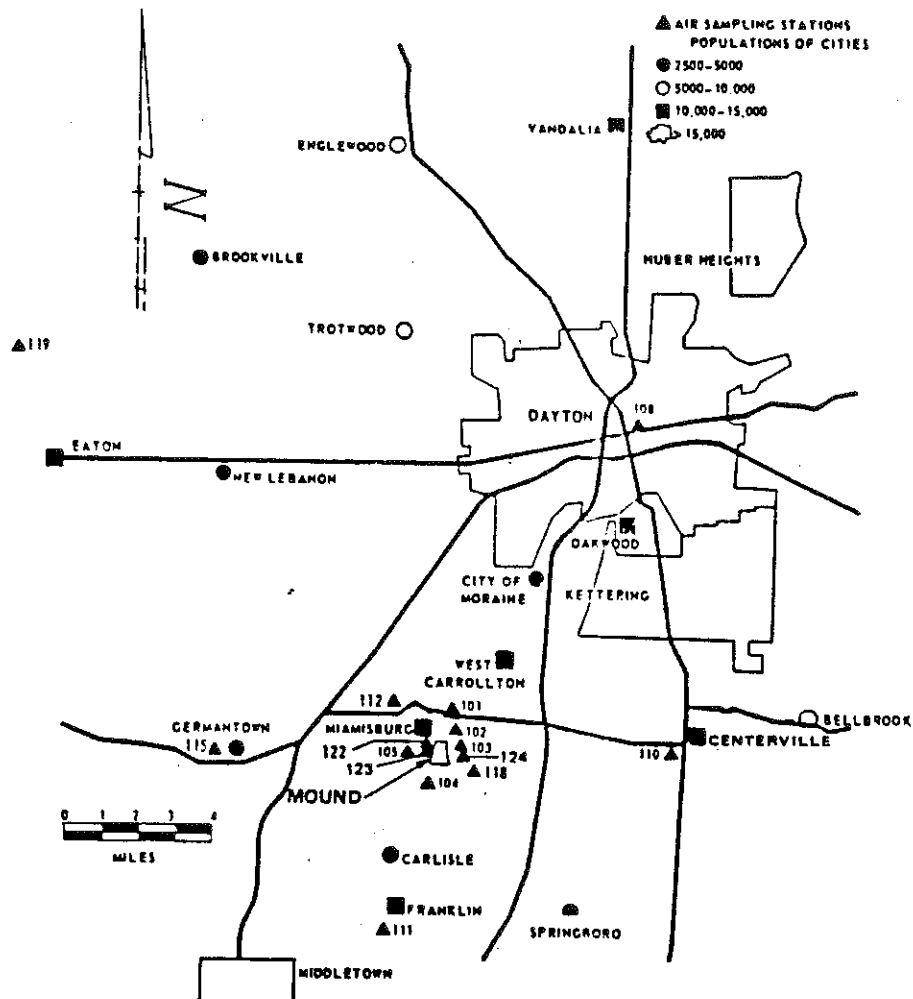


Figure 2 Offsite Air Sampling Locations.

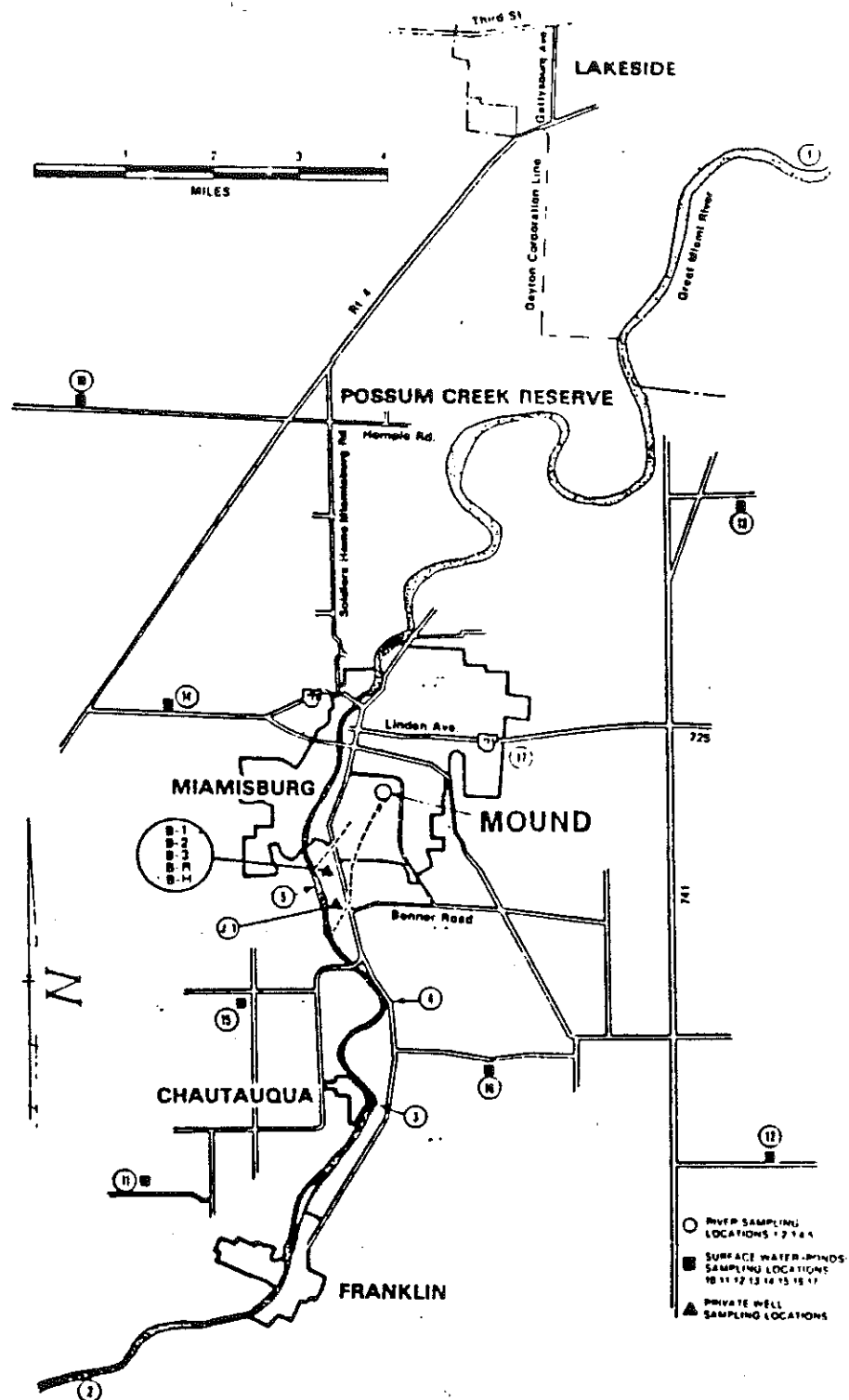


Figure 3 Offsite Water Sampling Locations.

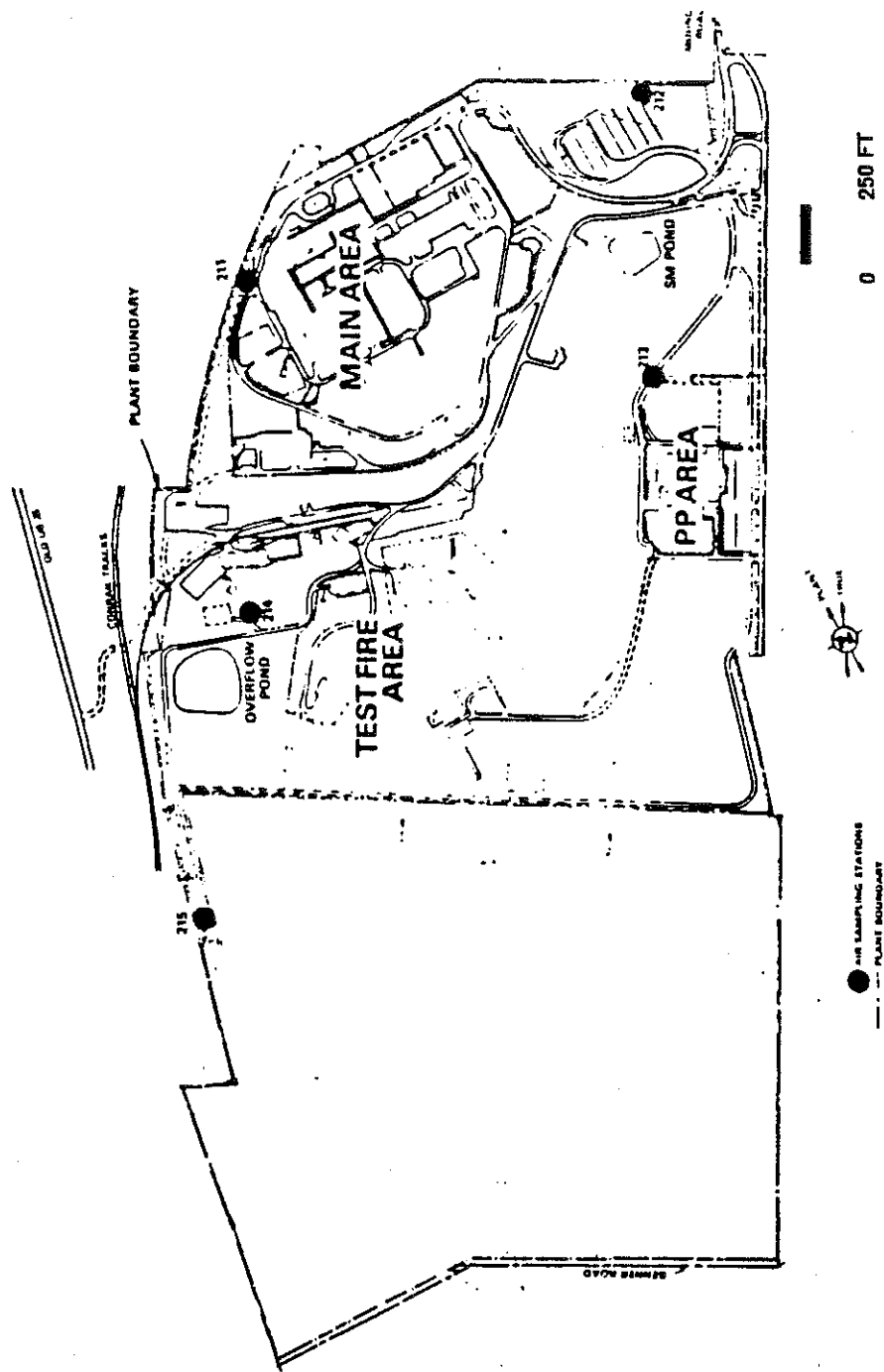


Figure 4 Onsite Air Sampling Locations.



Figure 5 Mound--Site Topography.

tamination has resulted from accidental spills, leakage from abandoned and active waste disposal areas and exfiltration from abandoned and active underground sewer pipelines. Contamination by radioactive and hazardous materials has been documented at the site. Numerous radioactive releases have been documented in the period 1960-1977. Workers and visitors have been subjected to inhalation and skin exposure from a variety of radioactive sources. In some cases, excessive body burden levels have been detected. According to a Survey of Mound Laboratory Documents (1977, Ref. 18), an explosion of ion-exchange resins containing plutonium on 8-27-65, represented a "near-miss" accident . . . Its seriousness should not be underestimated." In another incident in October of 1971, a spontaneous fire of solvents and plutonium (resulting from improper storage of materials) released 49.9 uCi of plutonium through a stack to the environment (62.4% of RCG limit). In another case (3-13-73) 163 Curies of tritium were released from stack filters into the environment (2.8 times RCG limit at property line).

High levels of tritium and plutonium reportedly still remain in soils and groundwater, despite extensive remedial activities at the site. According to the Environmental Survey Sampling and Analysis, Plan USDOE, 1987 (Ref. 73), "past on-site releases have resulted in a reservoir of contamination that is continuing to enter groundwater . . . [as evidenced by] analyses of core samples from inside site buildings, samples of liquids in utility trenches on-site, and samples of seeps and springs both on and off-site". As an example, results of sampling conducted for the Potable Water Standards Project, Dames & Moore, 1976 (Ref. 13) suggested that up to 1,300 curies of tritium were found beneath the SW Buildings.

#### Additional Information Needs:

1. Tabulation of drinking water wells within three miles of facility
  2. Location of contaminated groundwater seeps
  3. Results of any in-situ permeability measurements taken at the site
- E. Evidence of Suspected Past or Current Releases: See individual Solid Waste Management Unit descriptions for information on suspected or current releases. Other Areas of Concern are listed in the following table.



Table 3 Other Areas of Concern

<u>Name</u>	<u>Contaminant</u>	<u>Location</u>	<u>Volume/Area</u>	<u>Cause</u>	<u>Reference</u>
Plutonium Spill Area	Plutonium	See Figure V.1., Page V-19, Ref. 66	Unknown	Spilled Solutions	55
Paint Shop Spills	Paint, paint wastes	Soil adjacent to Paint Shop	Unknown	Leaks, spills, or dumping	55
Powerhouse Spills	Oil	Soil adjacent to Powerhouse	Unknown	Spills	55
WD Building Underground Tanks (4)	Radioactive Wastes	WD Building	Unknown	Corrosion Leaks (suspected)	55
Building 61 Spills	Waste Oil	Soil adjacent to Building 61	Unknown	Dumping (suspected)	55
Building 9 Spills	Waste Oil	Soil adjacent to Building 9	Unknown	Dumping	55
Valley-3 area	Sand Containing Cobalt-60	Between the Overflow Pond and Well No. 1	15,000 ft <sup>2</sup>	Contaminated soil dumping area	81
Main Hill-6	Sand Containing polonium-210 and cobalt-60	North of Building 76 east of Building 65	2,100 ft <sup>2</sup>	Soil dumping area	81
SM/PP Hill-4	Thorium-238 contaminated dirt	West of Building 30	25,000 ft <sup>2</sup>	Dumping area for contaminated dirt	81
SM/PP Hill-5	Polonium contaminated concrete	West of Building 30	13,000 ft <sup>2</sup>	Dumping area	81

Other Areas of Concern (continued)

<u>Name</u>	<u>Contaminant</u>	<u>Location</u>	<u>Volume/Area</u>	<u>Cause</u>	<u>Reference</u>
SM/PP Hill-6	Dirt containing thorium and plutonium	West of SM Building	19,000 ft <sup>2</sup>	Dumping area	81
Valley-4 Area	Polonium-contaminated concrete	Northeast of Building 49	9,000 ft <sup>2</sup>	Dumping area	81
SM/PP Hill-7	Soil contaminated with cobalt-60	Unknown	9,000 ft <sup>2</sup>	Dumping area	81
SW Building	Tritium	Releases from beneath the building	Unknown	Leaks	13
HH Building	Tritium	Releases from beneath the building	Unknown	Leaks	13
North Pond	Plutonium-contaminated runoff	East of north end of North Canal	Unknown	Spill	7
South Pond	Plutonium-contaminated runoff	East of north end of North Canal	Unknown	Spill	7

Additional Information Needed: See individual Solid Waste Management Unit descriptions for additional information needs on suspected or current releases.

1. Pond 13 and Pond 17 are cited in Reference 13 but there is no indication of whether they are waste management units. Provide information regarding the use (or purpose), location, dimensions, capacity, materials of construction wastes handled, hazardous constituents and release controls for these units.
2. Reference 57 indicates that boiler blowdown is blended with additives such as sodium sulfite, sodium carbonate, sodium lignosulfate, cobalt sulfate, morpholine, cyclohexylamine, acrylamide/sodium acrylate resin, butyl ethers of polyethylene-propylene glycol, sodium hydroxide and sodium polyacrylate. Provide the locations, dimensions, capacity, materials of construction and release controls of any sumps, tanks or other units used to store or treat boiler blowdown prior to discharge from the facility.

1. Unit Information:

A. Unit Name: Open Burning Area

Period of Operation: Unknown

Waste Type: Wastes consist of mild detonating fuse, pyrotechnic materials, components containing small amounts of explosives, tissue and cardboard contaminated with explosives (Ref. 23, p. 3-14), 2-[5-cyanotetrazolato] pentaamine cobalt (III) perchlorate and thermite powder (Ref. 66, App. C).

Wastes may also contain organic solvents such as acetone and freon (Ref. 73, p. 3-75).

Hazardous Constituents: Nitrous oxide and nitrogen dioxide are released during detonation (Ref. 66, App. C).

Regulatory Status: RCRA permit sought (Ref. 66).

B. Unit Description: The Open Burning Area is located on the southern edge of the plant site (Ref. 23, p. 1-2). Wastes are destroyed in accordance with U.S. Army Material Command Regulation 385-100 (Army Ordinance Manual) with the concurrence of the Ohio EPA and Montgomery County Combined General Health District (Ref. 23, p. 3-14). The distance to the nearest residence from the area is 1,400 feet (Ref. 44). Open burning is conducted inside a 64 ft<sup>3</sup> cage (4 ft x 4 ft x 4 ft) located inside a 1,200 ft<sup>3</sup> (10 ft x 10 ft x 12 ft) chain link fence enclosure (Ref. 66, p. 4-64). The floor of the unit is concrete. The unit can be used to burn up to 40 pounds of trash per event, but typically only 5-6 pounds of waste are burned at one time (Ref. 73). Approximately 1,120 pounds of explosive wastes were burned in 1977 (Ref. 23, p. 3-15).

Additional Information Needed:

1. Period of operation
2. Particulate release control mechanisms
3. History of releases

## 2. Unit Information:

### A. Unit Name: Past Landfill 1

Period of Operation: 1948-1972 (Refs. 50, 69, and 81).

Waste Type: The landfill reportedly contains trash and laboratory chemicals (Ref. 48), including solvents, paint, photo processing solutions, and plating bath solutions (Ref. 50). The volume of hazardous waste was approximately 1,000 ft<sup>3</sup> (Ref. 69, p. 2-2).

Hazardous Constituents: Unknown

Regulatory Status: RCRA (included in Part A) (Ref. 50). Mound notified the USEPA on June 9, 1981 regarding the presence of the site as required by CERCLA (Ref. 69, p. 2-2).

B. Unit Description: Past Landfill 1 was located on a hillside (Ref. 66, p. 1-21) adjacent to the existing large Overflow Pond (SWMU 15) southern portion of the facility. Wastes were burned at the time of landfilling at this site (Ref. 69, p.2-2). The landfill was taken out of service in 1972 and in 1978, most of the buried wastes were excavated and placed in a new Lined Landfill (SWMU 5) (Ref. 81). The Overflow Pond was built over the northern portion of the landfill in 1978 (Ref. 81, p. 4-28). Wastes from the portion of Past Landfill 1 beneath the Overflow Pond were not excavated (Ref. 81, p. 4-31). Mound officials believe it is not likely that large quantities of hazardous wastes exist in this location (Ref. 69, p. 2-2). The total waste volume in this area is approximately 16,000 yd<sup>3</sup> (Ref. 81, p. 4-31).

### Additional Information Needed:

1. Location
2. Status of closure
3. Dimensions
4. Depth
5. Closure design specifications
6. Sampling results
7. Method of initial disposal
8. Rationale for small quantity of hazardous waste

### 3. Unit Information:

#### A. Unit Name: Waste Solvent Incinerator

Period of Operation: 1971 to present (Ref. 4)

Waste Type: Solvent (types unknown)

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: The Waste Solvent Incinerator is a double chambered unit located in Building 51. The primary chamber is 222 inches long, 81 inches wide, and 176 inches high and the secondary chamber is 81 inches long, 61 inches wide, and 176 inches high. The chambers are lined with a fire-brick refractory. The incinerator's capacity is 5000 lb/hr and it is normally operated once a week for eight hours. A wet scrubber (SWMU 4) cleans gaseous emissions from the incinerator prior to discharging them to the atmosphere. Heat content of the waste is 5,000 Btu/hr (Ref. 4).

#### Additional Information Needed:

1. Regulatory status
2. Waste type
3. Hazardous constituents
4. Waste injection procedures
5. Ash disposal practices
6. Release control mechanisms
7. Source(s) of waste
8. Ancillary waste storage units

4. Unit Information:

A. Unit Name: Waste Solvent Incinerator Scrubber

Period of Operation: 1971 to present

Waste Type: Unknown

Hazardous Constituents: Unknown

Regulatory Status: Unknown

- B. Unit Description: The Scrubber consists of a flooded tray wet collector and a settling chamber to remove fly-ash from incinerator emissions. Incinerator gases enter the scrubber at between 1,300-1,500°F. Its capacity is 25,000 cubic feet per minute at 165°F (Ref. 4).

Additional Information Needed:

1. Regulatory status
2. Waste type
3. Hazardous constituents
4. Treatment description
5. Ash management procedures
6. Wastewater management procedures

5. Unit Information:

A. Unit: Lined Landfill

Period of Operation: 1978-?

Waste Type: Trash, laboratory chemicals (Ref. 48), solvents paint, photoprocessing solutions, and plating bath solutions (Ref. 50). The volume of hazardous waste is approximately 1,000 ft<sup>3</sup> (Ref. 69, p. 2-2).

Hazardous Constituents: Unknown

Regulatory Status: Mound notified USEPA on June 9, 1901 regarding the presence of the site as required by CERCLA (Ref. 69, p. 2-2). The site was included in Mound's RCRA Part A permit application (Ref. 50).

B. Unit Description: The Lined Landfill is lined with five feet of clay and contains 100,000 yds of waste materials (Ref. 69, p. 2-2) excavated from the Past Landfill 1 (SWMU 2). The Lined Landfill is overlain with three feet of clay and two to five feet of seeded topsoil (Ref. 81, p. 4-28). The Part B permit application reports 10 feet of underlying clay (Ref. 66, p. 1-21). The Lined Landfill was constructed with a leachate collection consisting of collection drains located approximately eight feet above the bottom of the landfill. These drains allow the collected leachate to drain into the nearby Overflow Pond (SWMU 15). These drains are located approximately eight feet above the bottom of the landfill to allow the landfill liquid to drain into the adjacent Overflow Pond. The excavated wastes were saturated during their removal from Past Landfill 1 in 1978 and liquid drained into the pond for six months (Ref. 81, p. 4-31). No leachate has been observed draining from the landfill in the past 14 years (Ref. 66, p. 1-21).

Additional Information Needed:

1. Location
2. Method of approval
3. Period of operation
4. Dimensions



5. Release controls
6. Hazardous constituents
7. Closure status
8. Leachate analysis
9. Liner permeability
10. Volume of leachate to Overflow Pond

6. Unit Information:

A. Unit Name: Past Disposal Area 2

Period of Operation: 1948-1972

Waste Type: Wood and metal debris including 5,000 crushed drums formerly containing thorium wastes (Ref. 81, p. 4-31).

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: Past Disposal Area 2 is located outside the boundary of Lined Landfill (SWMU 5) at its southwest corner, immediately east of the roadway surrounding the landfill.

Additional Information Needed:

1. Method of disposal
2. Dimensions
3. Release controls
4. Hazardous constituents
5. Closure status
6. Confirmation that only empty drums were disposed

7. Unit Information:

A. Unit Name: Past Disposal Area 3

Period of Operation: 1948-1972

Waste Type: Mound officials do not know what types of waste were disposed in this area (Ref. 81, p. 4-31).

Volume: 16,000 yd<sup>3</sup> (Ref. 81, p. 4-31)

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: Past Disposal Area 3 contains approximately 16,000 yds<sup>3</sup> of waste (Ref. B1, p. 4-31) and is located beneath the Overflow Pond (SWMU 15) near the Lined Landfill (SWMU 5). Although the types of waste materials left in this area are not known, Mound officials believe it is not likely that large quantities of hazardous waste exist in this location (Ref. 69, p. 2-2).

Additional Information Needed:

1. Regulatory Status
2. Method of disposal
3. Dimensions
4. Release controls
5. Waste types
6. Hazardous constituents
7. Closure status

8. Unit Information:

A. Unit Name: Plant Drainage System

Period of Operation: Unknown

Waste Type: Unknown

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: There are three drainage ditches and two canals that direct surface runoff from the property. The East Drainage Ditch directs water south to north and is located just east of Mound Road near the northeast corner of the facility. The West Drainage Ditch flows from the west central portion of the facility westward to the North and South Canal. The South Drainage Ditch is located on the southern end of the facility and directs water from the southwest to the South Canal (Ref. 9, Fig. 1). The North Canal is an open, brick-lined ditch that flows parallel to the site boundary for approximately 600 feet and terminates in two Recreation Ponds (SWMU 40). The South Canal flows to the south paralleling the Penn Central Railroad tracks to their intersection over the Great Miami River. The liquid effluent is discharged in accordance with an NPDES permit into the river at this point (Ref. 58, p. 3-3). As a result of a Waste Disposal Pipeline (SWMU 10) rupture in January 1969, plutonium-contaminated soil was washed by precipitation into the drainage system (Ref. 73, p. 3-92). Sediment samples taken from the ditches and canals have revealed the presence of plutonium-238. A Department of Energy Committee was assembled in January, 1975 to study the plutonium problem (Ref. 12, p. 4). The committee recommended improvement of on-site drainage and elimination of flow of drainage ditch water into the North Canal. They also recommended sediment sampling and construction of a retention basin to prevent further off-site plutonium releases (Ref. 12, p. 7).

Additional Information Needed:

1. Regulatory status
2. Period of operation

3. Waste types
4. Hazardous constituents
5. Release controls
6. Ditch and canal lengths
7. History of releases
8. Sediment sampling analyses
9. Materials of construction

9. Unit Information:

A. Unit Name: Drainage Flume

Period of Operation: Unknown

Waste Type: Unknown

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: The Drainage Flume was noted as a proposed structure on the southeast side of the facility (Ref. 10). No other information was provided.

Additional Information Needed:

1. Regulatory status
2. Dimensions
3. Flowrate
4. Period of operation
5. Waste types
6. Hazardous constituents
7. Release controls

10. Unit Information:

A. Unit Name: Waste Disposal (WD) Pipeline

Period of Operation: 1967-1976

Waste Type: Plutonium-laden wastewater slurry (Ref. 22, p. 3)

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: The Waste Disposal Pipeline is an abandoned underground pipeline which carried waste from the Plutonium Processing Facility down a hillside to the Waste Disposal Facility (SWMU 11) (Ref. 12). The pipeline ruptured in 1969 and three days of rainfall delayed the clean-up and spread the plutonium contamination to the drainage ditches and canals. The problem with migration of plutonium was not detected until 1974 (Ref. 22, p. 3). The liquid wastes were generated in the SM/PP area and carried by gravity via two underground pipelines (2,650 feet each) to the Building 41 pump station. The gravity pipeline was buried from 6 to 23 feet below grade and crossed the storm drainage creek above ground. Since abandonment of the pipeline, liquid waste from the SM/PP area has been sent to WD Building via tank trucks (Ref. 81, p. 4-33).

Additional Information Needed:

1. Regulatory status
2. Period of operation
3. Materials of construction
4. Capacity
5. Waste types
6. Hazardous constituents
7. Method of abandonment
8. Inspection findings following abandonment
9. Extent of contamination
10. Remedial activity status

## 11. Unit Information:

### A. Unit Name: Waste Disposal (WD) Facility

Period of Operation: Unknown

Waste Type: Low-level liquid radioactive waste (Ref. 32).

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: The Waste Disposal Facility received wastewater from the Plutonium Processing Facility via pipeline (SWMU 10) prior to its rupture in 1969 (Ref. 12). Treated effluent is discharged from the facility via NPDES outfall 001B (Ref. 32). This unit is also referred to as the Radioactive Waste Disposal (WD) Area (Ref. 63, p.1).

#### Additional Information Needed:

1. Regulatory status
2. Period of operation
3. Waste type
4. Hazardous constituents
5. Treatment processes
6. Dimensions
7. Capacity
8. Release controls
9. Closure status



## 12. Unit Information:

### A. Unit Name: Retaining/Settling Basins

Period of Operation: Unknown

Waste Type: Wastewater (1,000 gallons/year) containing small amounts (ppm range, grams per year) of dissolved explosives and acetone (4 m<sup>3</sup>/yr)(Ref. 23).

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: The basins are utilized for biodegradation of the explosive constituents and evaporation of the acetone (Ref. 23). According to Ref. 55, "the wastes were piped to concrete-lined filtering basins" then to an "open retaining/settling basin or a leach bed for biodegradation treatment." Two areas (labelled I in Ref. 55 and 69) represent the locations of these units on the western portion of the facility. The concrete-lined basins were dredged every 3 or 4 years. The sludge materials and filters were destroyed by thermal treatment.

### Additional Information Needed:

1. Number of basins
2. Regulatory status
3. Closure status
4. Dimensions
5. Capacity
6. Period of operation
7. Release controls
8. Disposition of dredged sludges and filters

### 13. Unit Information:

#### A. Unit Name: Solution Discard Areas

Period of Operation: Unknown

Waste Type: Pyrotechnic materials in solution (Ref. 23).

Hazardous Constituents: Unknown

Regulatory Status: Unknown

- B. Unit Description: Pyrotechnic materials in solution were discarded on the soil in a remote restricted area of the facility. The materials were disposed in this manner since it was thought that the inorganic salts in solution would not be removed by the Wastewater Treatment Plant (SWMU 14) (Ref. 23).

#### Additional Information Needed:

1. Number of disposal areas
2. Location(s)
3. Regulatory status
4. Volume of waste disposal
5. Period of operation
6. Hazardous constituents
7. Closure status
8. Waste analyses

#### 14. Unit Information:

##### A. Unit Name: Wastewater Treatment Plant

Capacity: 130,000 gallons/day (Ref. 23, p. 3-8).

Period of Operation: Unknown

Waste Type: Sanitary and industrial wastes (Ref. 53). The sludge contains radionuclides, but does not have RCRA-listed hazardous waste or hazardous waste characteristics (Ref. 55, p. V-5).

Hazardous Constituents: Unknown

Regulatory Status: NPDES permitted

B. Unit Description: The Wastewater Treatment Plant process consists of a grit chamber, comminutor, four equalization basins, two aeration tanks, two clarifiers and chlorination facilities (Ref. 53). After processing, the sludge is dried and packaged for off-site disposal and the effluent is discharged through an enclosed pipeline to the Great Miami River. Effluent quality is monitored continually to document compliance with their NPDES permit (Ref. 23, p. 3-13). Sources of wastewater treated at the facility include restrooms, showers, laundry facilities, lab sinks, and rinses from a small metal-finishing operation. An average of 100,000 gallons per day of treated effluent is discharged to the Great Miami River via Outfall 601 under NPDES permit No. IT000005 (Ref. 73). The capacity of the plant is 130,000 gallons/day (Ref. 23, p. 3-8). Ref. 55 (p. V-8) states that sludge contains radionuclides but does not have RCRA-listed hazardous wastes or hazardous characteristics. This unit is also referred to as Sanitary Disposal (SD) (Ref. 83, p.1).

##### Additional Information Needed:

1. Period of operation
2. Unit dimensions
3. Unit capacities
4. Release controls
5. Hazardous constituents
6. Waste flow description
7. Waste analysis which supports contention that there are no hazardous constituents in the waste

15. Unit Information:

A. Unit Name: Overflow Pond

Capacity: 5 million gallons (Ref. 23, p. 3-8)

Period of Operation: 1979 - present (Ref. 23, p. 3-8)

Waste Type: Rain run-off (Ref. 23, p. 3-8), non contact cooling water blowdown, and softener backwash (Ref. 32). Previously received leachate from Lined Landfill (SWMU 5).

Hazardous Constituents: Unknown

Regulatory Status: NPDES permitted

B. Unit Description: The pond is located near the western boundary of the facility and contains excess rain run-off and other effluents from the low flow retention basins. The pond was formed with an earthen dam and has a 5,000,000 gallon capacity to retain all facility effluents for five days in the event of a contaminant spill. Retention time in the pond allows settling of 95% of all silt (Ref. 23, p. 3-8). The Overflow Pond effluent is discharged from the facility to the Great Miami River via NPDES Outfall 002 at approximately 660,000 gallons per day (Ref. 32). The pond is lined with a minimum of three feet of compacted clay (Ref. 55, p. V-8). Waste residuals in Past Landfill 1 (SWMU 2) remain in the soil beneath the Overflow Pond (Ref. 69, p. 2-2).

Additional Information Needed:

1. Dimensions
2. Hazardous constituents
3. Release controls
4. Clay liner permeability
5. Volume of leachate received
6. Frequency of dredging
7. Dredge spoil management procedures

16. Unit Information:

A. Unit Name: Test Firing Tanks

Period of Operation: Unknown

Waste Type: Solid and gaseous explosive residuals, carbon dioxide, water and nitrogen oxides (Ref. 23, p. 3-16)

Hazardous Constituents: Nitrogen oxides (Ref. 23, p. 3-16)

Regulatory Status: Unknown

B. Unit Description: Test Firing Tanks are used to determine the performance of explosives and explosive devices. The tanks are constructed of steel with a sealable door, instrumentation ports, and an exhaust opening with baffles and filters for release of gaseous explosion products. Particulate matter is retained in the tank. Testing firing operations released 0.45 kg of nitrogen oxides to the atmosphere in 1977 (Ref. 23, p. 3-16). Ref. 55 (Figure C.3) shows a Test Fire Area east of Overflow Pond (SWMU 15).

Additional Information Needed:

1. Regulatory status
2. Period of operation
3. Disposal of solid residuals
4. Retention time of wastes
5. Capacity/dimensions
6. Hazardous constituents

17. Unit Information:

A. Unit Name: Oil Burn Structure

Period of Operation: Unknown

Waste Type: Unknown

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: The unit is used to test shipping containers by subjecting them to a gas fire for 15 minutes. This test is required for nuclear waste containers to prevent spillage in case of an accident during transport (Ref. 29).

Additional Information Needed:

1. Regulatory status
2. Period of operation
3. Location
4. Dimensions
5. Materials of construction
6. Release controls
7. Hazardous constituents

18. Unit Information:

A. Unit Name: Past Hazardous Waste Storage Area

Period of Operation: 1982-1985 (Ref. 41)

Waste Type: Combustible and flammable liquids and waste oils (Ref. 37), solvent-containing wastes, ignitable wastes, plating wastes, photoprocessing wastes, polymeric wastes, and toxic wastes (Ref. 66, p. 4-3).

Hazardous Constituents: EPA listed wastes: D001, D002, D004, D005, D006, D007, D008, D009, D010, D011, F002, F003, F004, F005, F007, F008, F009, U158 (Ref. 37).

Regulatory Status: Closed with Ohio EPA approval.

B. Unit Description: The Past Hazardous Waste Storage Area was located at Building 72 and was used for storage of combustible and flammable liquids and waste oils generated at the facility, prior to off-site shipment. Wastes were stored in 55-gallon drums (Ref. 41). The maximum storage capacity was 38,500 gallons if drums were stacked two-high (Ref. 37). Building 72 was a 60 foot by 40 foot covered structure. Its concrete floor had four drum storage bays which were diked and sloped (Ref. 37). The diked areas were used for segregating incompatible wastes (Ref. 55, p. V-11). Three of the diked areas were approximately 40 feet by 13 feet with capacity for approximately seventy 55 gallon drums and adequate aisle space. The floor was sloped and the dike height ranged from 6 to inches. The fourth diked area was approximately 24 feet by 9 feet and was used to hold defective containers and prepare waste containers for off-site shipment (Ref. 55, p. V-11). A closure plan was submitted on January 18, 1985 (Ref. 41). During closure, the roof was dismantled and the concrete broken up and disposed. The contaminated soil around the base of the facility was excavated, sampled, and analyzed for halogenated volatile organic compounds. The newly exposed soil contained no detectable levels of halogenated volatile organic compounds. Ohio EPA approved the closure plan on August 8, 1985 (Ref. 65). This unit is also referred to as Chemical Waste (72) (Ref. 83, p.1).

**Additional Information Needs:**

1. Waste analysis including non-halogenated VOAs (F003, F004, F005)
2. Status of final closure certification from Ohio EPA



19. Unit Information:

A. Unit Name: Current Hazardous Waste Storage Area

Period of Operation: 1985 to present (Ref. 4)

Waste Type: Combustible and flammable liquids and waste oils (Ref. 37), solvent-containing wastes, ignitable wastes, plating wastes, photoprocessing wastes, polymeric wastes, and toxic wastes (Ref. 66, p. 4-3).

Hazardous Constituents: EPA listed wastes: D001, D002, D004, D005, D006, D007, D008, D009, D010, D011, F002, F003, F004, F005, F007, F008, F009, U158 (Ref. 37).

Regulatory Status: RCRA

B. Unit Description: The Current Hazardous Waste Storage Area is located approximately 400 feet north of the Past Storage Area (SWMU 18) (Ref. 37). Its dimensions are 60 feet by 40 feet. The base is a concrete slab covered with the same roof used at the dismantled facility. No other information is available.

Additional Information Needed:

1. Capacity
2. Release controls

## 20. Unit Information:

### A. Unit Name: Explosive Storage Area

Period of Operation: Unknown

Waste Type: Detonators, high explosive powder, detonating cord, pyrotechnic powders, hexanitrostilbene and primary explosives  
(Ref. 66, App. C, Table C-8) and EPA-listed waste 0003

Hazardous Constituents: Unknown

Regulatory Status: RCRA Regulated

B. Unit Description: The Explosive Waste Storage Area, also known as Magazine 53, is located inside the fenced Open Burning Area (SWMU 1) (Ref. 66) on the south end of the facility (Ref. 37). It is used for temporary storage of containerized explosive waste prior to on-site thermal destruction. The bunker measures approximately 15.5 feet by 10 feet and is approximately 10 feet high. The walls and ceiling of the bunker are constructed of corrugated 10 gauge Armco multiplate. The end-walls are made of reinforced concrete approximately 12 inches thick. Compacted earth fill surrounds the walls with only the front wall uncovered for access. The fill provides more than two feet of cover on the top of the bunker (Ref. 66, p. 4-8).

### Additional Information Needed:

1. Period of operation
2. Hazardous constituents

## 21. Unit Information:

### A. Unit Name: Glass Melt Furnace

Period of Operation: Unknown

Waste Type: Selected hazardous wastes and radioactive mixed wastes  
(Ref. 66, p. 4-9).

Hazardous Constituents: (See Ref. 66, Tables C-1, C-2, App. C)

Regulatory Status: RCRA regulated

B. Unit Description: The Glass Melt Furnace is located in an addition to the west side of the liquid Waste Disposal (WD) Facility (SWMU 11). The addition is 57 feet by 24 feet constructed of reinforced concrete to ground level. The side walls are constructed of concrete block and reinforced concrete beams are provided at the top of the walls. The roof is concrete slab which spans the concrete walls (Ref. 66, p. 4-9). The incinerator is an electrically heated glass melter (Pyro-Converter™) purchased from Penberthy Electromelt International, Inc. The unit is equipped with a gas tight outer skin for radioactivity control and a hopper with a screw feed which supplies 23 kg/hr of shredded dry waste to the furnace. The screw feeder shaft is water cooled to minimize the possibility of ignition. Another feed system is used to convey ion exchange resins to the furnace. It consists of a vibrating hopper and a small screw feeder. The furnace is an elongated chamber designed to provide residence time in a high-temperature zone to combustion gases and particles passing through it. The upper chamber walls are constructed of fire brick and the ceiling is formed of cast refractory block. The entire furnace is lined with firebrick. A molten glass pool on the bottom of the chamber entraps most organics and immobilizes toxic substances and radionuclides. Ash from incompletely burned wastes falls to the bottom of the chamber and becomes incorporated into the molten glass. A water seal forms a pressure relief valve for the furnace. The seal is vented to the atmosphere through an HEPA filter (Ref. 66, p. 4-10).

Gases exit the chamber at the end opposite the feeder and enter the wet off-gas system consisting of primary and secondary wet scrubbing equipment and a high efficiency filter (SWMUs 43-51). Scrub liquid is recycled and provides a caustic solution for the system.

Glass melting is initiated by a 4000,000 Btu/hr propane-fire burner. Air for combustion is supplied through ports in the chamber side walls.

Additional Information Needed:

1. Period of operation
2. Glass disposal practices
3. Air release permit numbers

22. Unit Information:

A. Unit Name: Fire Fighting Training Facility

Period of Operation: Unknown

Waste Type: Deisel or unusable fuel, lumber, cardboard, and paper.

Hazardous Constituents: Unknown

Regulatory Status: Permitted by the Ohio Regional Air Pollution Control Agency (Ref. 44).

B. Unit Description: The lot used for the Fire Training Facility is located on the south end of the facility boundary. The nearest residence is approximately 800 feet away. Burning is conducted twice per week (Ref. 44).

Additional Information Needed:

1. Period of operation
2. Hazardous constituents
3. Dimensions
4. Release controls

23. Unit Information:

A. Unit Name: Wastewater Treatment Plant Sand Filters (2)

Period of Operation: Unknown

Waste Type: Unknown

Hazardous Constituents: Unknown

Regulatory Status: NPDES permitted (Ref. 51, 53, 54)

B. Unit Description: The Sand Filters are a component of the Wastewater Treatment Plant (SWMU 14) used on an "as needed" basis to control solids in the wastewater. The filters are epoxy-painted carbon steel tanks insulated with two-inch fiberglass board. The tanks are covered and heated to prevent freezing. These filters are up-flow filters with a 19 ft<sup>2</sup> surface area and are composed of quartz sand.

Additional Information Needed:

1. Period of operation
2. Dimensions
3. Capacity
4. Release controls
5. Hazardous constituents
6. Waste flow diagram
7. Backwash and filter disposal procedures

24. Unit Information:

A. Unit Name: Asphalt-Lined Pond

Period of Operation: Unknown, but dredged in 1983.

Waste Type: Stormwater run-off and non-contact single-pass cooling water.

Hazardous Constituents: Dredged materials reportedly contained low-level radioactive runoff.

Regulatory Status: Unknown

B. Unit Description: The pond is an asphalt-lined impoundment, located between Main Hill and SM Hill. The pond collects run-off from SM Hill and non-contact single-pass cooling water (Ref. 55).

Additional Information Needed:

1. Dates of operation
2. Analysis of pond liquids and sludges
3. Results of liner integrity inspections and tests (if any)
4. Dimensions
5. Hazardous constituents in SM Hill runoff
6. Source of radioactive runoff

25. Unit Information:

A. Unit Name: Concrete-Lined Ponds

Period of Operation: Unknown

Waste Type: Unknown

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: This unit consists of interconnected concrete retention basins that regulate on-site streamflow, prior to discharge. The basins are located on the western portion of the facility. Excess flow is diverted to the Overflow Pond (SWMU 15). Dredged materials from the retention basins reportedly were deposited near the SM Water Tower (SWMU 26)(Ref. 55). The Concrete-Lined Ponds may be equivalent to SWMU 12.

Additional Information Needed:

1. Dates of operation
2. Dimensions and capacity
3. Waste types and hazardous constituents
4. Date of dredging
5. Is this unit part of NPDES system?



26. Unit Information:

- A. Unit Name: Dredged Material Disposal Site near SM Water Tower  
Period of Operation: Unknown  
Waste Type: Dredged material from one-time cleaning of Concrete-Lined Ponds (SWMU 25).  
Hazardous Constituents: Unknown  
Regulatory Status: Unknown
- B. Unit Description: This area was used as a one time repository for dredged material from the Concrete-Lined Ponds (SWMU 25). The unit is located near the SM Water Tower (Ref. 55, p. V-9).

Additional Information Needed:

1. Unit dimension
2. Dates of operation
3. Release controls
4. Waste analysis
5. Volume of waste disposed

27. Unit Information:

A. Unit Name: Spoils Area

Period of Operation: Date of start-up - first quarter of 1985 (Ref. 55).

Waste Type: Unknown

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: This unit is located on the west central portion of the facility. The first of three cells was constructed in 1985. Total disposal capacity of the unit is 350,000 yd<sup>3</sup> (Ref. 55, V-10).

Additional Information Needed:

1. Dimensions
2. Status of Cells 2 and 3
3. Analysis of wastes
4. Release controls

28. Unit Information:

A. Unit Name: Solvent Storage Shed

Period of Operation: Unknown

Waste Type: Solvents

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: This unit is a temporary storage unit for waste solvents generated in "operating areas." Wastes accumulate in this unit(s?) until transported and stored in the Hazardous Waste Storage Area (SWMU 19) (Ref. 55, Fig. V.4).

Additional Information Needed:

1. Regulatory status
2. Number of units and locations
3. Dimensions
4. Waste types and quantities
5. Dates of operation
6. Release controls
7. Waste analysis

29. Unit Information:

A. Unit Name: Process Area Solvent Storage Areas

Period of Operation: Unknown

Waste Type: Solvents

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: This unit is a temporary storage unit for waste solvents generated in "operating areas." Wastes accumulate in safety cans until transported and stored in the Hazardous Waste Storage Area (SWMU 19) (Ref. 55, Fig. V.4).

Additional Information Needed:

1. Regulatory status
2. Number of units and locations
3. Dimensions
4. Waste types and quantities
5. Dates of operation
6. Release controls
7. Waste analysis

30. Unit Information:

A. Unit Name: Photoprocessing Waste Storage

Period of Operation: Unknown

Waste Type: Photoprocessing wastes

Hazardous Constituents: Silver, corrosivity

Regulatory Status: Unknown

B. Unit Description: This unit is an accumulation area for photoprocessing wastes. Wastes are stored in this unit before being transferred to the Hazardous Waste Storage Area (SWMU 19) (Ref. 55, Fig. V.4).

Additional Information Needed:

1. Regulatory status
2. Dimensions
3. Waste quantities
4. Waste analysis
5. Release controls
6. Dates of operation
7. Numbers and locations of units

31. Unit Information:

A. Unit Name: Radioactive Mixed Waste Consolidation Areas

Period of Operation: Unknown

Waste Type: Radioactive mixed wastes, primarily in the form of scintillation vials, organic solvents, heavy metals, corrosivity.

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: These units are accumulation areas for radioactive mixed wastes. Wastes are consolidated in 55-gallon drums in "operating areas" until transferred to Building 23 for storage (Ref. 55, Fig. V.4).

Additional Information Needed:

1. Wastes analyses
2. Numbers of units and locations
3. Dates of operation
4. Release controls
5. Dimensions
6. Regulatory status
7. Location of leak
8. Extent of remedial activities
9. Waste quantities

32/33. Unit Information:

A. Unit Name: Building 23 Waste Material Staging

Period of Operation: Unknown

Waste Type: Scintillation vials and mixed radioactive corrosive wastes.

Hazardous Constituents: Refer to Table C-9 (Ref. 66) for a list of hazardous constituents contained in these wastes.

Regulatory Status: RCRA interim status

- B. Unit Description: This unit is used primarily for temporary staging of packaged radioactive waste from Waste Consolidation Areas (SWMU 31) prior to off-site shipment. This unit is also used for storage of radioactive mixed waste, including scintillation vials - types 1, 2, 3 and acid and base wastes. Table 4 (Ref. 66) describes EPA waste codes and radioisotopes contained in the wastes. This unit consists of a 30 x 40 foot storage area for holding 55 gallon drums of mixed waste. The entire building is a 30 x 117 foot one-story structure constructed of concrete-block walls. An automatic sprinkler system is installed in the interior of the building. A 6 foot deep, 36-inch diameter concrete pipe comprises a manually controlled collection sump. Two loading docks on the front side of the building are used for transferring wastes for off-site shipment. This latter area constitutes SWMU 33. Approximately 85 gallons of scintillation vial waste (and associated packaging materials) are generated annually (Ref. 66, p. 4-7).

A DOE Environmental Survey Sampling and Analysis Plan (Ref. 73) documents a leak of a tar-like substance near the radioactive waste drums in the northeast corner of Building 23. The drums were stacked too close together for the inspection team to identify the source of the leak. It is unclear if hazardous substances or PCBs are contained in the leaked materials. This unit is also referred to as the Waste Materials Staging Area (Ref. 83, p.1).

Additional Information Needed:

1. Dates of operation
2. Quantities of wastes

TABLE 4. WASTE ANALYSIS DATA FOR RADIOACTIVE MIXED WASTE

Waste Name Wastewaste No.	Scintillation Vials-Type 1 M-136	Scintillation Vials-Type 2 M-137	Scintillation Vials-Type 3 M-138	Acid Waste M-150	Base Waste M-151
Physical Form	Clear liquid	Clear blue-violet liquid	Clear liquid	Liquid	Liquid
Constituents, %	Pseudocumene solvents, $\geq 50$ Synthetic organic surfactants, $\leq 50$ Chlorinated solvents, 0-5 Benzene, 0-5	Xylene, 50-70 Alkylpolyethoxyethanol and Arylhydrocarbons, balance	1,4-dioxane, 85-95 Naphthalene, 5-15 2,5-diphenyloxazole, 0.5-1 1,4-bis-2-(5-phenyloxazoly)- benzene, 50-150 ppm	Various acid solutions (to be determined)	Various base solu- tions (to be deter- mined)
Flash Point, $^{\circ}\text{F}$	$\sim 113$ 8-9	$\sim 79$ 7-10	$\sim 54$ 7-10	N/A $\leq 2$	N/A $\geq 12.5$
Source	Bioassay	Bioassay	Bioassay	Various opera- tions	Various opera- tions
EPA Waste Code	0001	D001; F003	D001	D002	D002
Radioisotopes	Tritium, carbon-14, plutonium-238 or plutonium-239	Tritium, carbon-14, plutonium-238 or plutonium-239	Tritium, carbon-14, plutonium-238 or plutonium-239	To be deter- mined (Suspect Pu-238 and Pu-239)	To be deter- mined (Suspect Pu-238 and Pu-239)



34. Unit Information:

A. Unit Name: Stagnant Water Area

Period of Operation: from the 1950's

Waste Type: Lithium carbonate and other smaller quantities of organic solvents.

Hazardous Constituents: Unknown

Regulatory Status: Unknown

- B. Unit Description: This unit is described in two different references as being in slightly different locations. Reference 55 states that a 150 foot diameter area of stagnant wastes was used for disposal of barrels of lithium carbonate and other hazardous materials. The area was apparently filled in. The location, as indicated in Figure V, is east of Building 34. Ref. 66, on the other hand, states that "the actual area of disposal was under and around Building 39, not the area to the east of Building 34 that was reported in previous documentation."

Additional Information Needed:

1. Exact location of unit
2. Dates of operation
3. Results of sampling
4. Extent of remedial activities
5. Quantity of material disposed
6. Waste types
7. Hazardous constituents

35. Unit Information:

A. Unit Name: Leach Bed

Period of Operation: Unknown

Waste Type: Caustic and acid solutions with plutonium contamination.

Hazardous Constituents: Unknown

Regulatory Status: Unknown

- B. Unit Description: This unit is a leach bed for plutonium operations in the PP Building. The area is located west of Building 38 and is surrounded by the Building 38 Hillside Disposal Area (SWMU 38) (Ref. 55, p. V-25).

Additional Information Needed:

1. Waste analysis
2. Dates of operation
3. Status of remediation
4. Dimensions of unit

36. Unit Information:

A. Unit Name: Chromium Trench

Period of Operation: 1963

Waste Type: Chromium plating solution treated with sodium bisulfide.

Hazardous Constituents: Chromium

Regulatory Status: Unknown

- B. Unit Description: In 1963, 110 gallons of chromium bath plating solution were treated with sodium bisulfide and disposed in a trench in the northern portion of facility. This area was subsequently paved over. Less than 1,000 pounds of chromium were disposed at this location (Ref. 55, p. V-25).

Additional Information Needed:

1. Regulatory status
2. Extent of remedial activities
3. Results of soil/groundwater sampling
4. Dimensions of unit
5. Release controls

37. Unit Information:

A. Unit Name: Pyro Waste Disposal Area

Period of Operation: Known disposal in 1984

Waste Type: Trace amounts of reacted pyrotechnic waste (D003) and small amounts of solvents (primarily acetone) in detergent.

Hazardous Constituents: Acetone and other solvents, trace quantities of reacted pyrotechnic wastes (D003).

Regulatory Status: Unknown

B. Unit Description: This unit corresponds to Area H (Ref. 55, p. V-25). Reacted pyrotechnic wastes were dissolved in water and filtered. The filtrate was disposed on the ground in the thermal treatment area (near Building 53) and treated by natural weathering processes (hydrolysis). The waste stream quantity averaged 10 gallons per year. In 1984, five gallons of liquid were disposed in this area.

Additional Information Needed:

1. Dimensions
2. Dates of Operation
3. Waste analysis
4. Release controls
5. Extent of remedial activities
6. Waste quantities
7. Regulatory status

38. Unit Information:

A. Unit Name: Building 38 Hillside Disposal Area

Period of Operation: From the 1950's to the present (Ref. 55, p. V-27)

Waste Type: Construction debris, plumbing fixtures, roofing materials (Ref. 55), and other chemical contaminants (Ref. 73, p.3-49), perhaps radioactive materials. Asbestos materials may also be disposed in this unit (Ref. 73).

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: This area is located on a hillside slope west of Building 38 (Ref. 55). It has been used since the early 1950's for disposal of construction and building debris. The materials have been "bulldozed over the hillside in a random, uncompacted fashion" (Ref. 55, p. V-27). The site encompasses four acres and a disposal volume exceeding 100,000 cubic yards. Continued disposal operations have resulted in spoil pile instability and excessive erosion (Ref. 55). This unit is described as Area J in Ref. 55.

Additional Information Needed:

1. Dates of closure
2. Waste analysis
3. Release controls
4. Extent of remedial activities
5. Depth of unit
6. Soil and groundwater sampling results
7. Results of engineering analysis of slope stability

39. Unit Information:

A. Unit Name: WD Building USTs  
Period of Operation: Unknown  
Waste Type: Radioactive wastes.  
Hazardous Constituents: Unknown  
Regulatory Status: Unknown

B. Unit Description: This unit consists of four underground steel tanks located near the WD Building (SWMU 11) in the northwest portion of the facility. The tanks were repaired and re-coated with epoxy on several occasions because of tank corrosion (Ref. 55, p. V-28). Leakage may have occurred from these units.

Additional Information Needed:

1. Regulatory status
2. Waste analysis
3. Hazardous constituents
4. Extent of remedial activities
5. Soil and groundwater sampling results
6. Dates of operation
7. Capacity and materials of construction
8. Timing of tank repairs

40. Unit Information:

A. Unit Name: Cooling Tower Basins

Period of Operation: Unknown

Waste Type: Cooling tower additives, including algaecides, organics, and sodium hydroxides.

Hazardous Constituents: Unknown

Regulatory Status: Unknown (but may be regulated under an NPDES permit).

B. Unit Description: The existence of this unit is inferred from correspondence between DOE and Ohio EPA (Ref. 57) concerning the characteristics of additives used in cooling tower and boiler systems. The following chemicals are listed in the correspondence:

- o ANCO Algaecide No. 1, Andersen Chemical Company (EPA Registration No. 3931-3);
- o 2-benzyl-4-chlorophenol;
- o aqueous solution of 2-benzyl-4-chlorophenol and sodium hydroxide;
- o Siltex, Andersen Chemical Company;
- o ANCO Microbicide 77, Andersen Chemical Company (EPA Registration No. 3931-3);
- o 5-chloro-2-methyl-4-isothiazolin-3-one;
- o 2-methyl-4-isothiazolin-3-one;
- o cooling water treatment - CSA - Andersen Chemical Company; and
- o organo-phosphonate, triazol, polyacrylate;

No other information concerning this unit was available.

Additional Information Needed:

1. Numbers of units and locations
2. Capacity of cooling tower basins
3. Waste volumes
4. Waste analysis
5. Disposition of wastes
6. Dates of operation

41. Unit Information:

A. Unit Name: Recreation Ponds (2)

Period of Operation: Unknown

Waste Type: Stormwater from southwest part of facility and cooling units  
located in the Powerhouse (Building P).

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: Liquids from the north trending fork of the Plant Drainage System (SWMU 8) flow to Recreation Ponds behind the abandoned Miamisburg Power & Light Company plant (Ref. 58). No other information regarding this unit was available in the file materials.

Additional Information Needed:

1. Dimensions and capacity
2. Regulatory status
3. Dates of operation
4. Release controls
5. Waste analysis
6. Soil, surface water, and groundwater sampling results
7. Type of recreation activities



#### 42. Unit Information:

##### A. Unit Name: Pyrotechnic Waste Shed

Period of Operation: Unknown

Waste Type: Pyrotechnic powders and pyrotechnic-contaminated wastes (D003).

Hazardous Constituents: Unknown

Regulatory Status: Unknown

- B. Unit Description: The Pyrotechnic Waste Shed temporarily stores pyrotechnic waste prior to thermal destruction. The shed is located inside the fenced Drum Area. The unit is constructed on a concrete pad - 9 by 15 feet in area and 7 feet high with chain-link fence side walls. The roof is constructed of 18-gauge galvanized corrugated steel (Ref. 66). Contaminated trash and pyrotechnic "providers" are saturated with mineral oil, contained within two conductive bags, and further sealed within a metal can. The facility indicates that "pyrotechnical components are stored in non-propagating trays inside of a metal suitcase" (Ref. 66, p. 10-6).

##### Additional Information Needed:

1. Regulatory status
2. Dates of operation
3. Waste analysis
4. Waste management description
5. Definition of "provider" and "non-propagating tray"

#### 43. Unit Information:

A. Unit Name: Glass Melter Off-Gas Deluge Tank

Period of Operation: Unknown

Waste Type: Off gases from Glass Melt Furnace (SWMU 21)

Hazardous Constituents: POHCs, metals, HCl, PAH

Regulatory Status: Unknown

B. Unit Description: This unit is the first component of the off-gas scrubber system for the Glass Melt Furnace. Figures 5 and 6 (Ref. 66) show the position of this unit in the incineration treatment system. It is unclear if this unit is equivalent to the Scrub Tank identified in Figure 4-5 (Ref. 66). The unit is located in the WD Building Annex. The unit is a vertical stainless steel tank. Four spray units inject caustic solution counter-current to the ascending gases. The tank drains directly to the Recycle Tank (SWMU 46) on which it rests (Ref. 66, p. 4-13). This system is inspected hourly when in use.

#### Additional Information Needed:

1. Capacity and dimensions
2. Results of destruction removal efficiency
3. Dates of operation
4. Regulatory status

#### 44. Unit Information:

##### A. Unit Name: Off-Gas Venturi Scrubber

Period of Operation: Unknown

Waste Type: Off-gases from Glass Melt Furnace (SWMU 21)

Hazardous Constituents: POHCs, metals, HCl, PAH

Regulatory Status: Unknown

- B. Unit Description: Gases from the Deluge Tank (SWMU 43) are scrubbed in a high-energy venturi scrubber. Figures 4-4 and 4-5 of Ref. 66 show the unit in the context of the incineration treatment system. A partial removal efficiency of 99% by weight for an inlet gas particle loading rate of  $1.15\text{g/m}^3$  requires a water pressure differential of 104 cm (Ref. 66). Gases and entrained droplets exit the bottom of the unit and enter the Cyclone Demister (SWMU 45) at its base. Scrubber inlet and outlet temperatures are  $324^\circ\text{F}$  and  $168^\circ\text{F}$ , respectively. Inlet and outflow velocities are 34 feet per second (FPS) and 75 FPS, respectively. Inlet and outlet flow rates (in DSCFM) are 208 and 292, respectively. Destruction removal efficiencies (DREs) for all principle organic hazardous constituents (POHCs) in the entire scrubber system in test burns ranged from 99.999% to 99.9999999. Modal DRE values for the test burns were equal to 99.999999%. Particulate control efficiencies ranged from 60 to 95% in test runs (Ref. 66). This unit is inspected hourly when in use.

##### Additional Information Needed:

1. Regulatory status
2. Dimensions and materials of construction
3. Dates of operation

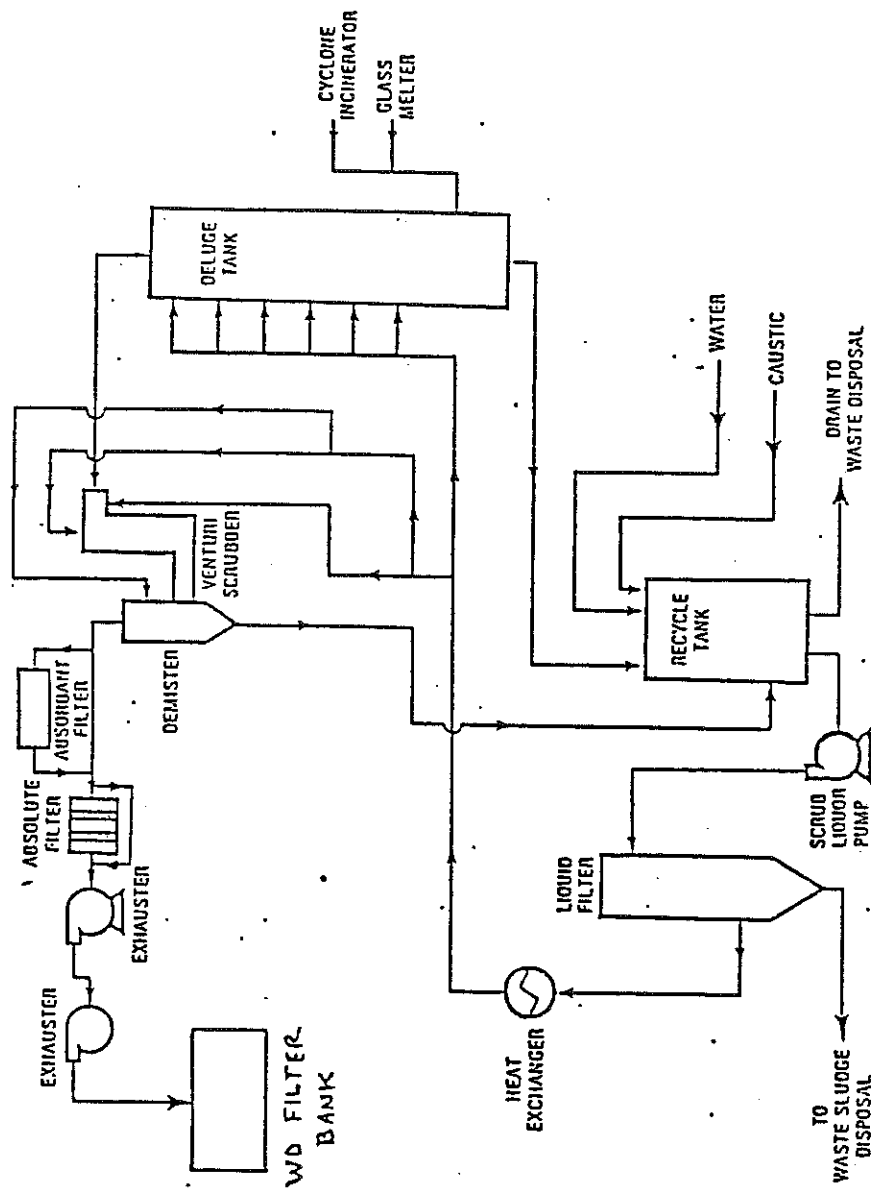


Figure 6 Wet offgas system.

# PROCESS FLOW DIAGRAM

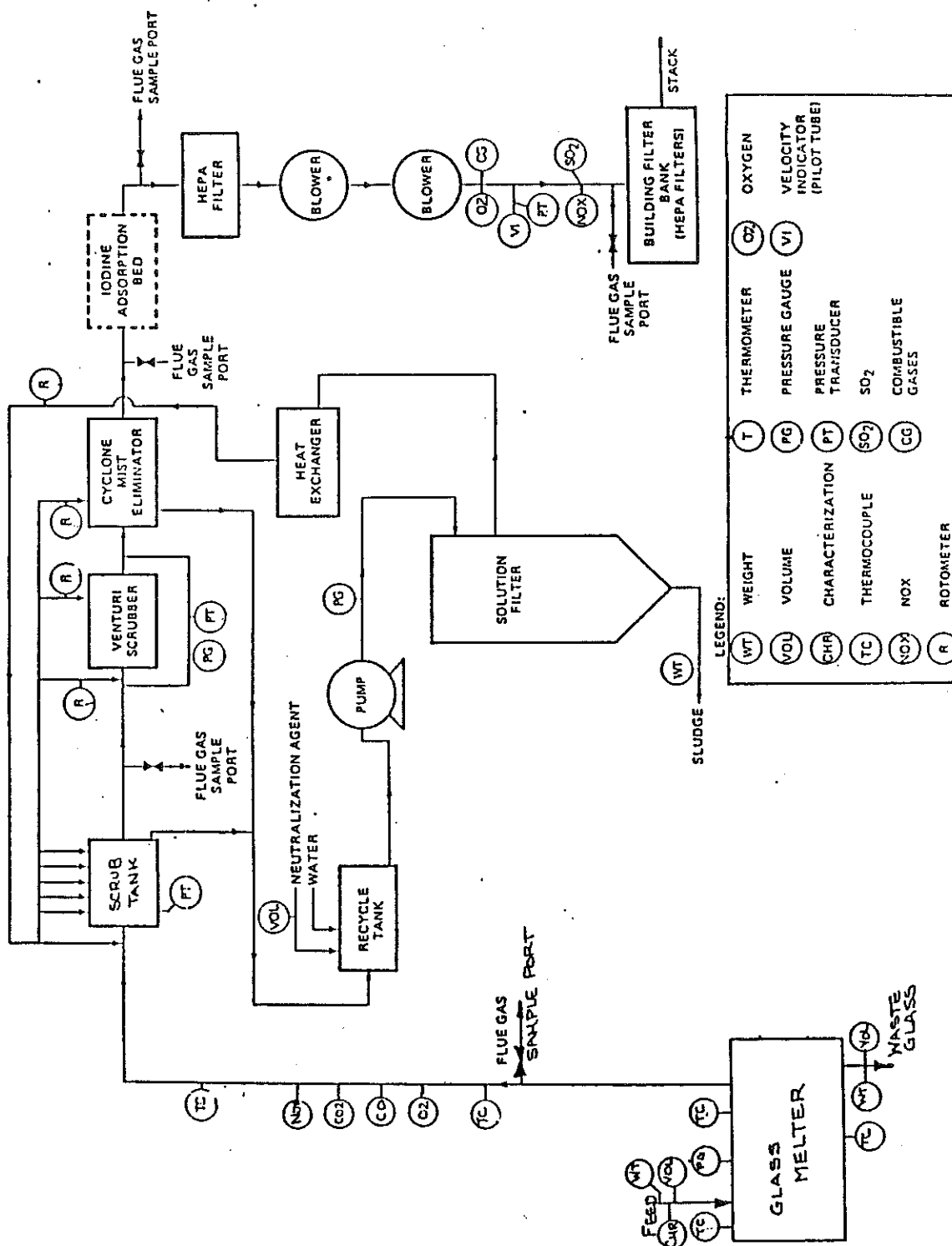


Figure 7 Glass Melter

45. Unit Information:

A. Unit Name: Off-Gas Cyclone Demister

Period of Operation: Unknown

Waste Type: Off-gases and entrained droplets from Off-Gas Venturi Scrubber (SWMU 44)

Hazardous Constituents: POHCs, metals, HCl, PAH

Regulatory Status: Unknown

B. Unit Description: Off-gases and entrained droplets from the Off-Gas Venturi Scrubber enter the base of this unit. Water sprays from the liquid mixture to the conical base of the unit into the Off-Gas Recycle Tank (SWMU 46) (Ref. 66, p. 4-13). Exit gases are routed to a nuclear grade high efficiency (HEPA) filter (SWMU 47). Figures 4-4 and 4-5 of Ref. 66 show the unit in the context of the other components of the incineration treatment system. This unit is inspected hourly when in use.

Additional Information Needed:

1. Regulatory status
2. Dimensions and construction
3. Dates of operation
4. Release controls

46. Unit Information:

A. Unit Name: Off-Gas Recycle Tank

Period of Operation: Unknown

Waste Type: Liquids from the Off-Gas Venturi Scrubber (SWMU 44), Off-Gas Cyclone Demister (SWMU 45), and Deluge Tank (SWMU 43).

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: This system, consisting of a stainless steel tank, provides for initial solution make-up, solution storage, a reservoir for temperature and pH moderation in the scrub liquor system, and a head for the recycle of make-up water for the three off-gas scrubber components. The unit receives drainage (by gravity) for the off-gas system components, including the Venturi Scrubber (SWMU 44), Cyclone Demister (SWMU 45), and Deluge Tank (SWMU 43). A pH probe maintains a pH in the range of 8-10. The recycled make-up water is also routed through a vertical Leaf Solution Filter (SWMU 49), a heat exchanger, and a strainer (SWMU 50) (Ref. 66, p. 4-14). Figure 4-4 shows an outlet from this unit to the waste disposal system (SWMU 14) as well. This system is inspected hourly when in use.

Additional Information Needed:

1. Dimensions and construction
2. Waste analysis
3. Regulatory status
4. Dates of operation
5. Release controls

47. Unit Information:

A. Unit Name: Iodine Adsorption Bed (Absorbent Filter)

Period of Operation: Unknown

Waste Type: Gases from Off-Gas Cyclone Demister (SWMU 45)

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: This unit is part of the Off-Gas Scrubber System (Ref. 66, Figs. 4-4, 4-5). Filtered gases apparently are further treated by an Off-Gas nuclear grade high efficiency (HEPA) Filter (SWMU 48). This unit is inspected hourly when in use. No other information was available regarding this unit.

Additional Information Needed:

1. Dimensions and construction
2. Waste analysis
3. Dates of operation
4. Regulatory status
5. Disposition of spent filters
6. Flow rates
7. Monitoring results



48. Unit Information:

A. Unit Name: Off-Gas HEPA Filter (Absolute Filter)

Period of Operation: Unknown

Waste Type: Gases from Iodine Adsorption Bed (SWMU 47) or Cyclone  
Demister (SWMU 45)

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: This unit is part of the Off-Gas Scrubber System (Ref. 66, Figs. 4-4, 4-5). Filtered gases are sent by way of two exhausters (in series) to the WD Filter Bank (SWMU 51), before being exhausted to the outdoors. This unit is inspected hourly when in use.

Additional Information Needed:

1. Dimensions and construction
2. Monitoring results
3. Dates of Operation
4. Regulatory status
5. Disposition of spent filters
6. Flow rates
7. release controls

49. Unit Information:

A. Unit Name: Off-Gas Leaf Solution Filter (Liquid Filter)

Period of Operation: Unknown

Waste Type: Make-up solution from Off-Gas Scrubber System

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: This unit accepts liquid from the Recycle Tank (SWMU 46) (Ref. 66, p. 4-14). Filter cake accumulates on the vertical filter leaves and is removed by periodic vibration of the filter housing. The dislodged cake falls by gravity to the bottom of the unit, where it is removed as a sludge. The effluent flows through a heat exchanger and strainer (SWMU 50) before being recycled to the Deluge Tank (SWMU 43), Venturi Scrubber (SWMU 44), and Demister (SWMU 45). This unit is inspected hourly when in use.

Additional Information Needed:

1. Dimensions and construction
2. Regulatory status
3. Dates of operation
4. Monitoring results
5. Wastes analysis
6. Hazardous constituents
7. Flow rates
8. Disposition of leaf cake build-up and bottom sludge

50. Unit Information:

A. Unit Name: Strainer

Period of Operation: Unknown

Waste Type: Make-up solution from off-gas scrubber solution

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: This unit receives effluent from the Off-Gas Leaf Solution Filter (SWMU 49) in the Off-Gas Scrubber Solution Make-Up System (Ref. 66, p. 4-14). Figure 4-5a indicates that liquid from this unit (and a filter in parallel) is routed to the Deluge Tank (SWMU 43) or Venturi Scrubber (SWMU 44). No other information about this unit was available for review. This unit is inspected hourly when in use.

Additional Information Needed:

1. Design and construction
2. Regulatory status
3. Waste analysis
4. Dates of operation
5. Disposition of wastes

51. Unit Information:

A. Unit Name: WD Filter Bank

Period of Operation: Unknown

Waste Type: Filtered off-gases from the Glass Melter Incinerator  
Scrubber System

Hazardous Constituents: Unknown

Regulatory Status: Unknown.

B. Unit Description: This unit represents a final filter for scrubber off-gases, prior to discharge to the atmosphere (Ref. 66, Figs. 4-4, 4-5). The filter bank apparently contains HEPA filters (nuclear-grade high efficiency filters). This unit is inspected hourly when in use.

Additional Information Needed:

1. Dimensions and construction
2. Regulatory status
3. Dates of operation
4. Disposition of filtrate and spent filters
5. Waste analysis
6. Monitoring results

52. Unit Information:

A. Unit Name: Retort (Rotary kiln)

Period of Operation: Unit installed in 1983

Waste Type: DU03 explosive wastes (primarily detonators and pellets),  
mild detonating cord (MDC) and mild detonating fuse (MDF).

Hazardous Constituents: Unknown

Regulatory Status: RCRA permit sought

B. Unit Description: This unit is a propane-fired rotary kiln used to destroy explosive wastes. The unit is three feet in diameter, has a 10-foot long kiln, and a vent stack (Ref. 66, p. 4-64). It is located in a four-inch thick concrete foundation and within a one-foot thick concrete enclosure. The kiln is heated to 800°F. The process is monitored every few minutes during operation. The temperature is controlled automatically.

Additional Information Needed:

1. Date of closure
2. Waste analysis
3. Air monitoring analytes and results
4. Frequency of inspections
5. Disposition of waste residue

53. Unit Information:

A. Unit Name: Building 90 Blockhouse

Period of Operation: Unknown

Waste Type: D003 explosive wastes

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: This is an ancillary waste storage unit associated with the Retort (SWMU 52). Small-quantity wastes are placed on a feed conveyor accessible through a port in the Blockhouse which is adjacent to the Retort. A screw feeder transfers the waste from the conveyor to the inside of the Retort (Ref. 66, p. 4-64).

Additional Information Needed:

1. Dates of operation
2. Dimensions and construction
3. Release controls
4. Waste quantities
5. Waste analysis

54. Unit Information:

A. Unit Name: Thermal Treatment Unit

Period of Operation: Unknown

Waste Type: D003 explosive wastes including contaminated trash, components and assemblies, bulk high explosive powder (PETN, PBX, RDX, HMX, and Tetryl), mild detonating cord and mild detonating fuses, pyrotechnic powders and trash, hexanitrostilbene (HNS) wastes, 2-[5-cyanotetrazolato] penta-mine cobalt (III) perchlorate (CP) wastes, Thermite powder wastes, and solid primary explosives (Ref. 66).

Hazardous Constituents: Unknown

Regulatory Status: RCRA permit sought

B. Unit Description: This unit is located in the Burn Area and it consists of a 55-gallon drum inside a base containing water and antifreeze. Wastes are placed in the drum and detonated remotely from Building 13. Control instruments in the building regulate a blower which provides air to the unit. The unit is operated periodically on a batch basis. The unit is located in a 10 by 10 by 10 foot cubicle with 4-inch thick steel-plate sand-filled walls and an open expanded metal screen roof. Temperature and opacity are monitored every few minutes while the unit is in operation (Ref. 66, pp. 10-7, 10-10).

Additional Information Needed:

1. Waste analysis
2. Disposition of ash residue
3. Waste and ash quantities
4. Dates of operation
5. Waste management description

55. Unit Information:

A. Unit Name: Biodegradation Unit

Period of Operation: Unknown

Waste Type: Soapy rinsate from decontamination of equipment used in pyrotechnic operations.

Hazardous Constituents: Unknown

Regulatory Status: RCRA permit sought

B. Unit Description: This unit consists of a portable steel cylinder (1 foot diameter, 2 feet high) mounted on legs and placed within a 30-inch by 30-inch by 6-inch high tray. Screens are placed at the top and bottom of the cylinder. A filter (through which the waste is poured) is placed on top of the upper screen. The waste apparently is treated by evaporation and biodegradation.

Additional Information Needed:

1. Waste analysis
2. Waste quantities
3. Dates of operation
4. Disposition of waste residues and filters
5. Location of unit
6. Release controls



56. Unit Information:

A. Unit Type: Drum Carts/Collection Vehicles

Period of Operation: Unknown

Waste Type: Containerized hazardous wastes and radioactive mixed wastes.

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: Drum carts are used to manually transfer containerized wastes to collection vehicles at generating points throughout the facility (Ref. 66, p. 5-10). The collection vehicles are small trucks with hydraulically activated tailgates.

Additional Information Needed:

1. Number of units
2. Decontamination procedures
3. Dates of operation

57. Unit Information:

A. Unit Name: Solvent Leach Beds

Period of Operation: 1960-1985 (Ref. 73, p. 3-45)

Waste Type: Water (80%), ethanol (10%), acetone (10%) and trace amounts of high explosive (Ref. 73).

Hazardous Constituents: Ethanol, acetone (Ref. 73)

Regulatory Status: Unknown

B. Unit Description: The solvent leach bed, located near Building 42, was 25 feet square and 5 feet deep. It is estimated that a few thousand gallons of wastewater was disposed in this unit (Ref. 73, p. 3-45).

Additional Information Needed:

1. Materials of construction
2. Source of wastewater
3. Status of closure
4. Release controls

58. Unit Information:

A. Unit Name: Building 1 Leach Pit

Period of Operation: Late 1960s-1985 (Ref. 73, p. 3-45)

Waste Type: Water, ethanol, acetone, and trace amounts of high explosives (Ref. 73).

Hazardous Constituents: Ethanol, acetone (Ref. 73)

Regulatory Status: Unknown

B. Unit Description: The Leach Pit was operated near Building 1. Its dimensions were similar to SWMU 57, the Solvent Leach Bed (25 feet square and 5 feet deep)(Ref. 73, p. 3-45).

Additional Information Needed:

1. Materials of construction
2. Source of wastewater
3. Volume of wastewater disposed
4. Status of closure
5. Release controls

59. Unit Information:

A. Unit Name: Building 27 Leach Pit

Period of Operation: Unknown

Waste Type: Unknown

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: A description of this unit was not provided in the information available for this report. Reference 73 provided only the name of the unit and implied that it was used for disposal of wastes similar to those in the Solvent Leach Bed (SWMU 57) and the Building 1 Leach pit (SWMU 58) (Ref. 73, p. 3-45).

Additional Information Needed:

1. Location
2. Dimensions
3. Materials of construction
4. Regulatory status
5. Period of operation
6. Waste type
7. Hazardous constituents
8. Release controls

60. Unit Information:

A. Unit Name: Former Solvent Drum Storage Area

Period of Operation: Unknown

Waste Type: Solvents

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: The unit was located on the west side of the road between the SM/PP Hill and Building 21 in the southern portion of the site. Reference 73 indicates that between 100 and 500 drums were observed in aerial photographs of the site. The aerial dimensions of the site were approximately 180 feet by 80 feet. Reference 73 also indicates there are no records regarding length of storage and that the structures associated with the unit have been removed (Ref. 73, p. 3-40).

Additional Information Needed:

1. Status of closure
2. Period of operation
3. Hazardous constituents
4. Materials of construction
5. Release controls
6. Source of wastes
7. Method of waste disposal

61. Unit Information:

A. Unit Name: Building 28 Solvent Storage Area

Period of Operation: Unknown

Waste Type: Solvents

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: This waste storage area is located in close proximity to storm or floor drains which could provide a release pathway to underlying soil. There is no curbing or other diversionary structures to prevent spilled material from leaving the area (Ref. 73, p. 3-58).

Additional Information Needed:

1. Location
2. Materials of construction
3. Regulatory status
4. Period of operation
5. Waste types
6. Hazardous constituents
7. History of releases
8. Source of wastes
9. Method of waste disposal

62. Unit Information:

A. Unit Name: DS Solvent Storage Shed

Period of Operation: Unknown

Waste Type: Solvents

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: This storage area is located in close proximity to storm or floor drains which could provide a release pathway to underlying soil. There is no curbing or other diversionary structures to prevent spilled material from leaving the area (Ref. 73, p. 3-58).

Additional Information Needed:

1. Location
2. Material of construction
3. Regulatory status
4. Period of operation
5. Waste types
6. Hazardous constituents
7. History of releases
8. Source of wastes
9. Method of waste disposal

63. Unit Information:

A. Unit Name: B Building Solvent Storage Shed

Period of Operation: Unknown

Waste Type: Solvents

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: This waste storage is located in close proximity to storm or floor drains which could provide a release pathway to underlying soil. There is no curbing or other diversionary structures to prevent spilled material from leaving the area (Ref. 73, p. 3-50).

Additional Information Needed:

1. Location
2. Material of construction
3. Regulatory status
4. Period of operation
5. Waste types
6. Hazardous constituents
7. History of releases
8. Source of wastes
9. Method of waste disposal



64. Unit Information:

A. Unit Name: E Building Solvent Storage Shed

Period of Operation: Unknown

Waste Type: Solvents

Hazardous Constituents: Unknown

Regulatory Status: Unknown

- B. Unit Description: This waste storage area is located in close proximity to storm or floor drains which could provide a release pathway to underlying soil. There is no curbing or other diversionary structures to prevent spilled material from leaving the area (Ref. 73, p. 3-58).

Additional Information Needed:

1. Location
2. Materials of construction
3. Regulatory status
4. Period of operation
5. Waste types
6. Hazardous constituents
7. History of releases
8. Source of wastes
9. Method of waste disposal

65. Unit Information:

A. Unit Name: Sludge Drying Beds

Period of Operation: Unknown

Waste Type: Wastewater treatment plant sludge and low level radioactive waste

Hazardous Constituents: Heavy metals including silver and cadmium, organic solvents including acetone and methylene chloride (Ref. 73, p. 3-63).

Regulatory Status: Unknown

B. Unit Description: The wastewater treatment plant sludge is deposited in the Sludge Drying Beds and then packaged in boxes for disposal as a low level radiological waste at the Nevada Test Site. The boxes are sampled for radiological analyses. The Nevada Test Site does not have approval for disposal of radioactive mixed waste and requested that these sludge shipments be discontinued (Ref. 73, p. 3-63). The beds are located adjacent to the Wastewater Treatment Plant.

Additional Information Needed:

1. Regulatory status
2. Period of operation
3. Materials of construction
4. Release controls
5. Method of sludge conveyance
6. Current method of dried sludge disposal

66. Unit Information:

A. Unit Name: Waste Oil Drumfield

Period of Operation: 1985 to present

Waste Type: Waste oil, solvents, plating shop waste, batteries, herbicides, photographic solution, scintillation vials and other chemical wastes (Ref. 73, p. 3-73).

Hazardous Constituents: Toluene

Regulatory Status: Unknown

B. Unit Description: The field containing the waste drums is located on the SM/PP Hill approximately 250 yards southeast of the Open Burning Area (SWMU 1). The area is approximately 100 feet long and 50 feet wide and contains 193 drums. Drums at the south end contain waste oil while the drums at the northern end contain plating shop waste, solvents, explosive/solvent waste, batteries, kitchen grease, herbicides, photographic solution, epoxy preforms, lab chemicals, scintillation vials (<50 uCi/liter) and other chemical wastes. The drums are located outdoors on bare soil. Reference 73 indicates the soil was stained on the southern end of the unit (Ref. 73, p. 3-67).

Additional Information Needed:

1. Regulatory status
2. Method of waste disposal
3. Hazardous constituents
4. Release history

67. Unit Information:

A. Unit Name: Waste Solvent Storage Tank

Period of Operation: 1968-1972 (Ref. 73, p. 3-139)

Waste Type: Solvents

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: The 1,000-gallon storage tank is located underground behind Building 51 and was used to store waste solvents prior to contamination in the incinerator. The tank has been abandoned but it is not known whether it still contains waste solvent (Ref. 73). The tank is now 16 years old and is constructed of steel. It is unlined and has no cathodic or external protection (Ref. 81, p. 4-20). -

Additional Information Needed:

1. Location
2. Material of construction
3. Regulatory status
4. Period of operation
5. Waste types
6. Hazardous constituents
7. History of releases
8. Source of wastes
9. Method of waste disposal
10. Abandonment procedures

68. Unit Information:

A. Unit Name: Ventilation Hoods

Period of Operation: Unknown

Waste Type: Explosive gases, paint fumes, epoxy fumes, solder fumes, metal vapors, solvent fumes, dust, acid gases, asbestos and other chemicals.

Hazardous Constituents: Acetone, trichloroethylene, benzene, chloroform, toluene, methylene chloride, hydrofluoric acid, hydrochloric acid, sulfuric acid, nitric acid, methylethyl ketone (Ref. 81, p. D-1).

Regulatory Status: Unknown

B. Unit Description: There are 570 ventilation hoods used in 34 buildings at the Mound Facility. The hoods direct gas and particulate emissions directly or via air pollution control equipment to the atmosphere (Ref. 81, p. 3-11, 12, 13).

Additional Information Needed:

1. Regulatory status
2. Period of operation

69-71. Unit Information:

A. Unit Name: Refuse Piles (3)

Period of Operation: Unknown

Waste Type: Unknown

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: Three refuse piles are located near the Thermal Treatment Area (Ref. 66, Fig. 10-1). No other information was available.

Additional Information Needed:

1. Regulatory status
2. Dimensions
3. Waste types
4. Period of operation
5. Hazardous constituents
6. Release controls

72. Unit Information:

A. Unit Name: Air Pollution Control Devices

Period of Operation: Unknown

Waste Type: Dust from maintenance and machine shops, incinerator fly ash, and radioactive particulates.

Hazardous Constituents: Hydrofluoric acid, diallyl phthalate, acetone, cyclohexane, methylene chloride, xylene, benzene, chloroform, hexane, nitric acids, sulfuric acid.

Regulatory Status: Permitted by the Ohio Regional Air Pollution Control Board

B. Unit Description: Sixteen Air Pollution Control devices not previously described in this report are operated on the facility (Ref. 3). These include four dust collectors on exhaust air ports from Building M and Building 33 and twelve filter bank facilities to handle radioactive particulates from various on-site buildings (Ref. 3).

Additional Information Needed:

1. Period of operation
2. Number of addition air pollution control units associated with ventilation hoods
3. Method of particulate or wastewater disposal

73. Unit Information:

A. Unit Type: Solid Waste Salvage and Reclamation Building

Period of Operation: Unknown

Waste Type: Unknown

Hazardous Constituents: Unknown

Regulatory Status: Unknown

B. Unit Description: This unit is located north of the Wastewater Treatment Plant in Building 19 (Ref. 55, Fig. V.5).

Additional Information Needed:

1. Regulatory status
2. Period of operation
3. Waste types
4. Dimensions
5. Capacity
6. Release controls
7. Hazardous constituents



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INSPECTED 12-3-83  
STATUS 5  
RES. AGENCY C  
INSP. TYPE N

FEDERAL FACILITY STATUS REPORT  
U.S. DEPARTMENT OF ENERGY - MOUND FACILITY  
OH 6890008984

OBJECTIVE

Versar Inc. was contracted by U.S. EPA Region V Waste Management Branch to update and verify existing information pertaining to federal facilities that generate, treat, store, or dispose of hazardous waste as defined and regulated under 40 CFR 260-267.

Versar personnel completed a RCRA Verification TSD Sheet, a Facility Status Sheet, and a RCRA Inspection Report for the U.S. Department of Energy (DOE) - Mound Facility. These forms were prepared by reviewing EPA and Ohio EPA records and reports and from an informative meeting with David Duell and Don Marshall of Ohio EPA.

In general, site visits were conducted at all federal TSD facilities unless a recent or upcoming inspection was indicated by the Ohio EPA contacts or the Ohio State Implementation Officer. The U.S. DOE - Mound Facility was not visited because of a recent inspection performed by Ohio EPA on December 12, 1983.

This report summarizes the findings of Versar's records review and Ohio EPA's site visit and details the facility's current operations.

I. FACILITY IDENTIFICATION

U.S. DOE - Mound Facility  
Mound Road, P.O. Box 66  
Miamisburg, Ohio 45342

Contact: Harry Hill, Area Manager DAO  
Phone: (513) 865-3271

II. DATE OF VISIT AND PARTICIPANTS

December 2, 1983

Monsanto Research Corporation (Operating Contractor)  
Richard Blauvelt, Materials Resource Coordinator

Ohio EPA

David Duell, Hazardous Materials Management Section  
Don Marshall, Hazardous Materials Management Section  
Jeff Hines, Hazardous Materials Management Section

### III. FACILITY STATUS

#### A. Facility Description

The Mound Facility performs work in support of both DOE weapons and non-weapon programs with emphasis on explosives and nuclear technology. The facility is operated by Monsanto Research Corporation. Monsanto is responsible for maintaining the hazardous waste operations at the facility which consist of container storage and the open burning of explosives.

The container storage area is located outside above a gravel substrate and covers an area of 30 feet by 60 feet. It is presently used to store waste solvents, plating wastes, contaminated explosive refuse, reactives including sodium and potassium metal wastes, corrosive photo processing wastes, and assorted ignitable wastes. A new storage site that will comply with the the RCRA Part B requirements is planned to be built in the near future.

All hazardous waste is disposed of through Triangle Resource Industries. They operate a large staging area, and they bulk transport wastes to proper disposal sites across the country.

#### B. Facility Status

During the Ohio EPA site visit, the following deficiencies with the RCRA interim status standards were observed:

1. The operator of the facility does not have a completed contingency plan. When completed, copies of the plan will need to be distributed to local fire departments, hospitals, Ohio EPA, and local emergency response teams.
2. The container storage area does not maintain sufficient aisle space to allow the unobstructed movement of personnel, fire protection equipment, and spill control equipment throughout the area.



3. The closure plan does not estimate the expected year of closure or a schedule for final closure.
4. The annual report has not been signed by the owner or operator of the facility or his authorized representative.
5. The facility is not permitted by the Ohio EPA to store or open burn hazardous waste.

#### IV. PERMIT RECORDS REVIEW

Based on the site visit performed by Ohio EPA, the RCRA Part A information accurately reflects the current conditions and practices at the U.S. DOE - Mound Facility.

# RCRA INSPECTION REPORT

EPA Identification Number: 0 H 6 8 9 0 0 0 8 9 8 4

Installation Name: Department of Energy - Mound Facility

Location Address: Mound Road, P.O. Box 66

City: Miamisburg State: Ohio 45342

Date of Inspection: 12/3/83 Time of Inspection (from) \_\_\_\_\_ (to) \_\_\_\_\_

*Person(s) Interviewed	Title	Telephone
<u>Richard Blauvelt</u> (Operator - Monsanto Research Corporation)	<u>Materials Resource Coord.</u>	<u>(513) 865-3698</u>
_____	_____	_____
_____	_____	_____

Inspector(s)	Agency/Title	Telephone
<u>David Duell</u>	<u>Ohio EPA</u>	<u>(513) 461-4670</u>
<u>Don Marshall</u>	<u>Ohio EPA</u>	<u>(703) 750-3000</u>
<u>Jeff Hines</u>	<u>Ohio EPA</u>	_____

*Installation Activity (mark only one box)	Inspection Form(s)
<u>X</u> Treatment/Storage/Disposal per 40 CFR 265.1 and Generation and/or Transportation	A
_____ Treatment/Storage/Disposal (no generation or Transportation)	A
_____ Generation and Transportation	B, C
_____ Generation Only	B
_____ Transportation Only	C

Section A: SCOPE OF INSPECTION

1. Interim status standards for treatment, storage or disposal of HAZARDOUS WASTES SUBJECT TO 40 CFR 265.1. Complete Inspection Form A sections B, C, D, E, and G.
2. Place an "X" in the box(es) corresponding to the facility's treatment, storage and disposal processes, and generation and/or transportation activity (if any). Complete only the applicable sections and appendices.

Permit application process(es) (EPA Form 3510-3)    Inspection Form A section(s)

S01	<input checked="" type="checkbox"/>	storage in containers	I
S02	<input type="checkbox"/>	storage in tanks	J
T01	<input type="checkbox"/>	treatment in tanks	J
S04	<input type="checkbox"/>	storage in surface impoundment	K, F
T02	<input type="checkbox"/>	treatment in surface impoundment	K, F
D83	<input type="checkbox"/>	disposal in surface impoundment	K, F
S03	<input type="checkbox"/>	storage in waste pile	L
D81	<input type="checkbox"/>	disposal by land application	M, F
D80	<input type="checkbox"/>	disposal in landfill	N, F
T03	<input checked="" type="checkbox"/>	treatment by incineration (open burning)	O/P
T04	<input type="checkbox"/>	treatment in devices other than tanks, impoundments, or incinerators	Q

Other activities

GENERATOR ☐

APPENDIX GN

TRANSPORTER ☐

APPENDIX TR

3. Indicate any hazardous waste processes, by process code, which have been omitted from Part A of the facility's permit application.
4. Indicate any hazardous waste processes (by process code and line number on EPA Form 3510-3 page 1 of 5) which appear to be eligible for exclusion per 40 CFR 265.1(c). Provide a brief rationale for the possible exclusion.

<input type="checkbox"/> ocean disposal	<input type="checkbox"/> onsite accumulation <90 days
<input type="checkbox"/> underground injection	<input type="checkbox"/> farmer
<input type="checkbox"/> POTW	<input type="checkbox"/> "totally enclosed" treatment facil.
<input type="checkbox"/> permitted by authorized state	<input type="checkbox"/> WWTP
<input type="checkbox"/> handling only small quantity generator waste	<input type="checkbox"/> transporter storing manifested waste <10 days
<input type="checkbox"/> treatment/storage for recycle (see 261.6(b))	

Section B: GENERAL FACILITY STANDARDS (Part 265, Subpart B)

	YES	NO	NI*	REMARKS
1. Has the Regional Administrator been notified regarding:				
a. Receipt of hazardous waste from a foreign source?			X	
b. Facility expansion? (§270.72)			X	
c. Change of owner or operator?			X	
2. General Waste Analysis:				
a. Has the owner or operator obtained a detailed chemical and physical analysis of the waste?	X			Almost all wastes are known
b. Does the owner or operator have a detailed waste analysis plan on file at the facility? See 265.13 for requirements	X			Wastes analyzed onsite or at Monsanto lab in Dayton
c. Does the waste analysis plan specify procedures for inspection and analysis of each movement of hazardous waste from off-site?			X	
3. Security - Do security measures include: (if applicable)				
a. 24-hour surveillance?	X			
or				
b. i. Artificial or natural barrier around facility?	X			
and				
ii. Controlled entry?	X			
c. Danger sign(s) at entrance?	X			"Danger No Smoking and Authorized Personnel Only"
4. Owner or operator inspections:				
a. Does the owner or operator inspect the facility for malfunctions, deterioration, operator errors, and discharges of hazardous waste that may affect human health or the environment:	X			Inspected weekly

\*Not Inspected

	YES	NO	NI	REMARKS
b. Does the owner or operator have an inspection schedule at the facility?	<u>X</u>	<u>  </u>	<u>  </u>	<u>  </u>
c. If so, does the schedule address the inspection of the following items:				
i. Monitoring equipment?	<u>X</u>	<u>  </u>	<u>  </u>	<u>  </u>
ii. Safety and emergency equipment?	<u>X</u>	<u>  </u>	<u>  </u>	<u>  </u>
iii. Security devices?	<u>X</u>	<u>  </u>	<u>  </u>	<u>  </u>
iv. Operating and structural equipment (i.e., dikes, pumps, etc.)?	<u>X</u>	<u>  </u>	<u>  </u>	<u>  </u>
v. Type of problems to be looked for during the inspection (e.g., leaky fitting, defective pump, etc.)?	<u>X</u>	<u>  </u>	<u>  </u>	<u>  </u>
vi. Inspection frequency based upon the possible deterioration rate of the equipment)?	<u>X</u>	<u>  </u>	<u>  </u>	<u>weekly</u>
d. Are areas subject to spills inspected daily when in use?	<u>  </u>	<u>  </u>	<u>  </u>	<u>Not on Ohio EPA checklist</u>
e. Does the owner or operator maintain an inspection log or summary of owner or operator inspections?	<u>X</u>	<u>  </u>	<u>  </u>	<u>  </u>
f. Does the inspection log contain the following information:				
i. The date and time of the inspection?	<u>X</u>	<u>  </u>	<u>  </u>	<u>  </u>
ii. The name of the inspector?	<u>X</u>	<u>  </u>	<u>  </u>	<u>  </u>
iii. A notation of the observations made?	<u>X</u>	<u>  </u>	<u>  </u>	<u>  </u>
iv. The date and nature of any repairs or remedial actions?	<u>X</u>	<u>  </u>	<u>  </u>	<u>  </u>

	YES	NO	NI	REMARKS
5. Do personnel training records include:				Monthly, quarterly, and semi-annual drills
a. Job titles?	X			
b. Job descriptions?	X			
c. Description of training? who did it/were they trained?	X			
d. Records of training?	X			
e. Did facility personnel receive the required training by 5/19/81?	X			
f. Do new personnel receive required training within six months?	X			
g. Do personnel training records indicate that personnel have taken part in an annual review of initial training?	X			
6. If required, are the following special requirements for ignitable, reactive, or incompatible wastes addressed?				
a. Special handling?	X			Slide presentation on special handling of explosives
b. No smoking signs?	X			
c. Separation and protection from ignition sources?	X			

Section C: PREPAREDNESS AND PREVENTION (Part 265, Subpart C)

	YES	NO	NI	REMARKS
1. Maintenance and Operation of Facility:				
Is there any evidence of fire, explosion, or release of hazardous waste or hazardous waste constituent?		X		
2. If required,* does the facility have the following equipment:				
a. Internal communications or alarm systems?	X			
b. Telephone or 2-way radios at the scene of operations?	X			
c. Portable fire extinguishers, fire control, spill control equipment, and decontamination equipment?	X			

Indicate the volume of water and/or foam available for fire control?

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3. Testing and Maintenance of Emergency Equipment:				
a. Has the owner or operator established testing and maintenance procedures for emergency equipment?	X			Conducted by fire department
b. Is emergency equipment maintained in operable condition?	X			
4. Has owner or operator provided immediate access to internal alarms? (if needed*) Is there ever just one person onsite?	X			Mr. Blauvelt or Vaughters always supervises transfer of haz waste and have two-way radio.
5. Is there adequate aisle space for unobstructed movement of protection/fire/decontamination equipment?		X		Aisle space is inadequate

\*Unless not required by particular waste characteristics

6. Has the owner or operator attempted to make arrangements with local authorities in case of an emergency at the facility?

YES NO NI REMARKS

X

Facility has their own fire dept, security, and medical facility

     local PD/FD  
     state emergency response teams/  
      contractors  
     hospitals



Section D: CONTINGENCY PLAN AND EMERGENCY PROCEDURES (Part 265, Subpart D)

YES NO NI REMARKS

1. Does the Contingency Plan contain the following information:

a. The actions facility personnel must take to comply with §265.51 and 265.56 in response to fires, explosions, or any unplanned release of hazardous waste? (If the owner has a Spill Prevention, Control, and Countermeasures (SPCC) Plan, he needs only to amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this Part (as applicable).)

— X —

Plan is being reviewed and updated at the present time

b. Arrangements agreed by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services pursuant to §265.37? (See Section C, No. 6)

— X —

c. Names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinators?

— X —

d. A list of all emergency equipment at the facility which includes the location and physical description of each item on the list and a brief outline of its capabilities?

— X —

e. An evacuation plan for facility personnel where there is a possibility that evacuation could be necessary? (This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes.)

— X —

	YES	NO	NI	REMARKS
2. Are copies of the Contingency Plan available at the site and local emergency organizations?	_____	<u>X</u>	_____	_____
3. Emergency Coordinator:				
a. Is the facility Emergency Coordinator identified? (or a designee?)	_____	<u>X</u>	_____	_____
b. Is coordinator familiar with all aspects of site operation and emergency procedures?	_____	_____	<u>X</u>	<u>To be determined</u>
c. Does the Emergency Coordinator have the authority to carry out the Contingency Plan?	_____	_____	<u>X</u>	<u>To be determined</u>
4. Emergency Procedures:				
If an emergency situation has occurred at this facility, has the Emergency Coordinator followed the emergency procedures listed in 265.56?	_____	_____	<u>X</u>	_____

Section E: MANIFEST SYSTEM, RECORDKEEPING, AND REPORTING (Part 265, Subpart E)

YES NO NI REMARKS

1. Use of Manifest System

- a. Does the facility follow the procedures listed in §265.71 for processing each manifest? (Particularly sending a copy of the signed manifest back to the generator within 30 days after delivery.)

✓

- \_\_\_ sign and date each copy?  
\_\_\_ note discrepancies?  
\_\_\_ copy to transporter?  
\_\_\_ copy to generator in 30 days?  
\_\_\_ copy onsite for 3 years?  
\_\_\_ appropriate marking if storage onsite (<90 days)?

- b. Are records of past shipments retained for 3 years?

✓

2. Does the owner or operator meet requirements regarding manifest discrepancies?

✓

- \_\_\_ attempts to reconcile?  
\_\_\_ if not, notify Regional Admin. within 15 days?

Not applicable to owners or operators of on-site facilities that do not receive any wastes from off-site sources.

3. Operating Record:

- a. Does the owner or operator maintain an operating record as required in 265.73?

✓

- b. Does the operating record contain following information:

- i. The method(s) and date(s) of each waste's treatment, storage, or disposal as required in 40 CFR Part 265 Appendix I? (process codes)

✓

YES NO NI REMARKS

ii. The location and quantity of each hazardous waste within the facility? (This information should be cross-referenced to specific manifest number, if waste was accompanied by a manifest.)

✓

\*\*iii. A map or diagram of each cell or disposal area showing the location and quantity of each hazardous waste? (This information should be cross-referenced to specific manifest number, if waste was accompanied by a manifest.)?

✓

iv. Records and results of all waste analyses, trial tests, monitoring data, and operator inspections?

✓

v. Reports detailing all incidents that required implementation of the Contingency Plan?

✓

vi. All closure and post closure costs as applicable? (See §265.142/144)

✓

#### 4. Availability of Records:

Are all facility records required under 40 CFR Part 265 available for inspection?

✓

✓

Report was not signed

— biennial report by Mar. 1 of even-numbered years? (not for 1980) - Form 8700-13B - see §265.75

\*\*Only applies to disposal facilities

YES NO NI REMARKS

5. Unmanifested Waste Reports:\*\*\*

- a. Has the facility accepted any hazardous waste from an off-site generator subject to 40 CFR 262.20 without a manifest or shipping paper?

X

- b. If "a" is yes, provide the identity of the source of the waste and a description of the quantity, type, and date received for each unmanifested hazardous waste shipment.

\_\_\_\_ small quantities are  
excluded - no manifest

X

\*\*\*Not applicable to owners or operators of on-site facilities that do not receive any hazardous wastes from off-site sources.

Section F: GROUNDWATER MONITORING (Part 265, Subpart F)

Complete this section for facilities that treat, store, or dispose of hazardous wastes in *landfills, surface impoundments and/or by land treatment only.*

	YES	NO	NI	REMARKS
1. Has the owner or operator of the facility implemented a groundwater monitoring system?			NA	
If "no", skip to number 11.				
2. Has the owner or operator of the facility implemented an alternate groundwater monitoring system as described in 265.90(d)?				
3. Does the groundwater monitoring system meet the following requirements of 265.91:				
a. At least one well installed hydraulically up-gradient from the limit of the waste management area?				
Indicate the total number of up-gradient wells.				
b. At least three wells installed hydraulically down-gradient at the limit of the waste management area?				
Indicate the total number of downgradient wells.				
c. Are the number, locations, and depths of all wells sufficient to yield groundwater samples that are representative of groundwater under the facility?				
Sketch the locations of the wells relative to the waste management area.				
d. Are the monitoring wells constructed in accordance with 265.91(c) (e.g., properly cased, screened, etc.)?				

	YES	NO	NI	REMARKS
4. Has the owner or operator developed a written groundwater sampling and analysis plan that includes procedures and techniques for:				
a. Sample collection?	_____	_____	_____	_____
b. Sample preservation and shipment?	_____	_____	_____	_____
c. Analytical procedures?	_____	_____	_____	_____
d. Chain of custody control?	_____	_____	_____	_____
5. Does owner or operator follow groundwater sampling and analysis plan?	_____	_____	_____	_____
6. Is the groundwater sampling and analysis plan maintained at the facility?	_____	_____	_____	_____
7. Has the owner or operator determined the concentration or value of all the groundwater monitoring parameters of 265.92(b) in accordance with paragraphs c and d of 265.92?	_____	_____	_____	_____

<u>Parameters</u>	<u>Year 1</u>	<u>Year 2</u>
A. chloride    B. pH	A + B - Quarterly	A - Annually
Fe            SC		B - Semi-annually
Mn            TOC		
phenol        TOX		
Na		
SO <sub>4</sub>		

8. Has the owner or operator developed an <u>outline</u> of a comprehensive groundwater quality assessment program that is capable of determining:				
a. Whether hazardous waste or hazardous waste constituents have entered the groundwater?	_____	_____	_____	_____
b. The rate and extent of migration of hazardous waste or hazardous waste constituents in the groundwater?	_____	_____	_____	_____

	YES	NO	NI	REMARKS
c. The concentration of hazardous waste or hazardous waste constituents in the groundwater?	_____	_____	_____	_____
*9. Has the owner or operator performed statistical analysis of his groundwater monitoring data as required in 265.93(b)?	_____	_____	_____	_____
_____ calculate $\bar{x}$ (mean) and $s^2$ (variance)				
_____ apply t-test				
*10. Was there a statistically significant increase (or pH decrease) detected in any well?	_____	_____	_____	_____
a. If "yes," has the owner or operator responded in accordance with the procedures prescribed in 265.93 paragraphs c through f?	_____	_____	_____	_____
_____ obtain additional down-gradient samples and analyze for significant change				
_____ notify Regional Admin. within 7 days				
_____ plan within 15				
11. Has the owner or operator prepared a written groundwater monitoring waiver demonstration for the facility?	_____	_____	_____	_____
a. Is the waiver demonstration maintained at the facility?	_____	_____	_____	_____
b. Has the waiver demonstration been certified by a qualified geologist or geotechnical engineer?	_____	_____	_____	_____

Note: Inspectors should request a copy of the waiver document.

\*These requirements do not take effect until the first 6 months after November 19, 1982. The latest date for compliance with these requirements is May 19, 1983.



YES NO NI REMARKS

c. Skip questions 12, 13, and 14.

12. Has the owner or operator submitted an alternate groundwater monitoring system to the Regional Administrator? \_\_\_\_\_

a. Has the plan been certified by a qualified geologist or geotechnical engineer? \_\_\_\_\_

Note: If the plan for an alternate groundwater monitoring system was not submitted to the Regional Administrator, the inspector should request a copy for review.

13. Does the alternate groundwater monitoring plan address the requirements of 265.90(d)? \_\_\_\_\_

14. Does the owner or operator submit reports and maintain records as required in 265.94? \_\_\_\_\_

\_\_\_\_ quarterly for first year.  
 \_\_\_\_ annually/semiannually for  
 2nd year - submit by  
March 1  
 \_\_\_\_ elevations annually

Section G: CLOSURE AND POST CLOSURE (Part 265, Subpart G)

	YES	NO	NI	REMARKS
1. Closure				
a. Is the facility closure plan available for inspection?	✓			
b. Does the plan identify:				
i. Maximum extent unclosed during facility life?	✓			
ii. Maximum hazardous waste inventory?	✓			
iv. Estimated year of closure?		✓		
v. Schedule of closure activities?		✓		
c. Has closure begun?		✓		
*2. Post-Closure				
a. Is the post-closure plan available for inspection?			✓	
b. Does this plan contain:				
i. Description of groundwater monitoring activities and frequencies?			✓	
ii. Description of maintenance activities and frequencies for:				
AA. integrity of cap, final cover, or containment structures, where applicable?			✓	
BB. facility monitoring equipment?			✓	
iii. Name, address, and phone number of person or office to contact during post-closure care period?			✓	
c. Has the post-closure period begun?			✓	
d. Is the written post-closure cost estimate available?			✓	

\*Applies only to disposal facilities.

Section I: USE AND MANAGEMENT OF CONTAINERS (Part 265, Subpart I)

	YES	NO	NI	REMARKS
1. Are containers in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Are containers compatible with waste in them?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Sufficient</u>
3. Are containers managed to prevent leaks?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>Aisle space is not maintained</u>
4. Are containers stored closed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. Are containers inspected weekly for leaks and defects?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6. Are ignitable and reactive wastes stored at least 15 meters (50 feet) from the facility property line? (Indicate if waste is ignitable or reactive).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7. Are incompatible wastes stored in separate containers? (If not, the provisions of 40 CFR 265.17(b) apply.)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. Are containers of incompatible waste separated or protected from each other by physical barriers or sufficient distance? [§265.177(c)]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Section J: TANKS (Part 265, Subpart J)

N/A

	YES	NO	NI	REMARKS
1. Are tanks used to store only those wastes which will not cause corrosion, leakage or premature failure of the tank?	_____	_____	_____	_____
2. Do uncovered tanks have at least 60 cm (2 feet) of freeboard, or dikes or other containment structures?	_____	_____	_____	_____
3. Do continuous feed systems have a waste-feed cutoff?	_____	_____	_____	_____
4. Are waste analyses done before the tanks are used to store a substantially different waste than before?	_____	_____	_____	_____
5. Are required daily and weekly inspections done?	_____	_____	_____	_____
6. Are reactive and ignitable wastes in tanks protected or rendered non-reactive or non-ignitable? Indicate if waste is ignitable or reactive. (If waste is rendered non-reactive or non-ignitable, see treatment requirements.)	_____	_____	_____	_____
7. Are incompatible wastes stored in separate tanks? (If not, the provisions of 40 CFR 265.17(b) apply.)	_____	_____	_____	_____
8. Has the owner or operator observed the National Fire Protection Association's buffer zone requirements for tanks containing ignitable or reactive wastes?	_____	_____	_____	_____

Tank capacity: \_\_\_\_\_gallons

Tank diameter: \_\_\_\_\_feet

Distance of tank from property line \_\_\_\_\_feet

(See Tables 2-1 through 2-6 of NFPA's "Flammable and Combustible Liquids Code - 1977" to determine compliance.)

N/A

Section K: SURFACE IMPOUNDMENTS (Part 265, Subpart K)

	YES	NO	NI	REMARKS
1. Do surface impoundments have at least 60 cm (2 feet) of freeboard?	---	---	---	-----
2. Do earthen dikes have protective covers?	---	---	---	-----
3. Are waste analyses done when the impoundment is used to store a substantially different waste than before?	---	---	---	-----
4. Is the freeboard level inspected at least daily?	---	---	---	-----
5. Are the dikes inspected weekly for evidence of leaks or deterioration?	---	---	---	-----
6. Are reactive and ignitable wastes rendered non-reactive or non-ignitable before storage in a surface impoundment? (If waste is rendered non-reactive or non-ignitable, see treatment requirements.)	---	---	---	-----
7. Are incompatible wastes stored in different impoundments? (If not, the provisions of 40 CFR 265.17(b) apply.)	---	---	---	-----

Section L: WASTE PILES (Part 265, Subpart L) *N/A*

	YES	NO	NI	REMARKS
1. Are waste piles covered or protected from dispersal by wind?	_____	_____	_____	_____
2. Is each in-coming movement of waste analyzed before being added to the waste pile?	_____	_____	_____	_____
3. Are leachate, run-off, and run-on controlled as per the requirements of 265.753?	_____	_____	_____	_____
<input type="checkbox"/> <i>impermeable base</i> <input type="checkbox"/> <i>run-on or run-off control containment and treatment</i>				
4. Are reactive and ignitable wastes rendered non-reactive or non-ignitable before storage in a pile? Indicate if waste is ignitable or reactive. (If waste is rendered non-reactive or non-ignitable, see treatment requirements.)	_____	_____	_____	_____
5. Are piles of reactive or ignitable waste protected from materials or conditions that might cause them to ignite or react?	_____	_____	_____	_____
6. Are incompatible wastes stored in different piles? (If not, the provisions of 40 CFR 265.17(b) apply.)	_____	_____	_____	_____
7. Are piles of incompatible waste protected by barriers or distance from other waste?	_____	_____	_____	_____

Section M: LAND TREATMENT (Part 265, Subpart M) *NA*

	YES	NO	NI	REMARKS
1. Is treated hazardous waste capable of biological or chemical degradation?	_____	_____	_____	_____
2. Are run-off and run-on diverted from the facility or collected?	_____	_____	_____	_____
3. Is waste analyzed according to 265.273?	_____	_____	_____	_____
_____ is it EP toxic?				
_____ food chain crops - analysis for As, Cd, Pb, Hg				
4. If food chain crops are grown at the facility, has the owner or operator addressed the requirements of 265.276?	_____	_____	_____	_____
_____ notify Regional Admin.				
_____ show no metals uptake				
5. Is an unsaturated zone monitoring plan designed and implemented to detect the vertical migration of hazardous waste and provide information on the background concentrations of the hazardous waste available?	_____	_____	_____	_____
6. Does the unsaturated zone monitoring plan address the minimum information specified in 265.278?	_____	_____	_____	_____
_____ show difference between background and waste treatment area (capability to detect)				
7. Are records kept regarding application dates and rates, and quantities, and locations, of all hazardous waste placed in the facility?	_____	_____	_____	_____
8. Are the special requirements fulfilled regarding land treatment of ignitable or reactive wastes? (Indicate if waste is ignitable or reactive.)	_____	_____	_____	_____
9. Are incompatible wastes land treated? (If yes, 265.17(b) applies.)	_____	_____	_____	_____

Section N: LANDFILLS (Part 265, Subpart N)

NA

YES NO NI REMARKS

1. General Operating Requirements:

Does the facility provide the following:

a. Diversion of run-on away from from active portions of the fill?

\_\_\_\_\_

b. Collection of run-off from active portions of the fill?

\_\_\_\_\_

c. Is collected run-off treated?

\_\_\_\_\_

d. Control of wind dispersal of hazardous waste?

\_\_\_\_\_

2. Surveying and Recordkeeping:

Does the Operating Record include:

a. A map showing the exact location and dimensions of each cell?

\_\_\_\_\_

b. The contents of each cell and the location of each hazardous wastetype within each cell?

\_\_\_\_\_

3. Special requirements for ignitable or reactive waste. Are ignitable or reactive wastes treated so the resulting mixture is no longer ignitable or reactive? (Indicate if waste is ignitable or reactive.)

\_\_\_\_\_

4. Special Requirements for Incompatible Wastes:

Does the owner or operator dispose of incompatible waste in separate cells? (If not, the provisions of 40 CFR 263.17(b) apply.)

\_\_\_\_\_

Note: If waste is rendered non-reactive or non-ignitable see treatment requirements. If not, the provisions of 40 CFR 265.17(b) apply.



	YES	NO	NI	REMARKS
5. Special requirements for liquid waste:				
a. Are bulk or non-containerized liquids placed in the landfill? If "yes," complete items i, ii, and iii.	_____	_____	_____	_____
i. Does the landfill have a chemically and physically resistant liner system?	_____	_____	_____	_____
ii. Does the landfill have a functional leachate collection system?	_____	_____	_____	_____
iii. Are free liquids stabilized prior to or immediately after placement in the landfill?	_____	_____	_____	_____
b. Have containers holding free liquids been placed in landfill since March 22, 1982?	_____	_____	_____	_____
6. Special requirements for containers:				
Are empty containers crushed flat, shredded, or similarly reduced in volume before being buried beneath the surface of the landfill?	_____	_____	_____	_____

Section O/P: INCINERATION AND THERMAL TREATMENT (Part 265, Subparts O and P)

1. Determination of Steady State:

a. Type of unit (i.e., type of incinerator or thermal treatment): \_\_\_\_\_

b. Components and steady state condition:

Was each component at steady state prior to adding waste?

COMPONENT	YES	NO	NI	REMARKS
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

YES NO NI REMARKS

2. Waste Analysis

a. Minimum requirements, for wastes not previously burned/treated.

i. Required analyses; has an analysis been performed for the following:

Heating value? \_\_\_\_\_

Halogen content? \_\_\_\_\_

Sulfur content? \_\_\_\_\_

ii. Has documented or written data been substituted for analysis of either:

Lead? \_\_\_\_\_

Mercury? \_\_\_\_\_

(Note in Remarks any which you feel should be tested.)

	YES	NO	NI	REMARKS
3. Monitoring and Inspections				
a. Are combustion/emission control instruments monitored at least every 15 minutes?	_____	_____	_____	_____
b. Is steady state maintained or corrections attempted?	_____	_____	_____	_____
c. Is stack plume observed at least hourly for normal color and opacity?	_____	_____	_____	_____
d. Did any stack observations made by owner or operator show a plume different than normal?*	_____	_____	_____	_____
e. If "yes" to (d) above, were corrections made to return omissions to normal appearance?*	_____	_____	_____	_____
f. Are the complete unit and associated equipment inspected daily for leaks, spills, and fugitive emissions?	_____	_____	_____	_____
g. Are emergency shutdown controls and system alarms checked daily for proper operation?	_____	_____	_____	_____
4. Open Burning				
a. Only complete this part if the facility open burns hazardous waste.				
i. Does this facility burn <u>only</u> waste explosives? (A <u>No</u> answer means <u>other</u> hazardous waste is open-burned.)	_____	_____	_____	_____

\_\_\_\_\_

\*Specify in Remarks for what period of time this was checked.

YES NO NI REMARKS

ii. If this facility open-burns waste explosives, does it burn the waste at a distance greater than or equal to the minimum specified distance (below)

✓ approx 2,000 feet

Pounds of waste explosives or propellants	Minimum distance from open burning burning or detonation to the property of others	
0 to 100 . . . . .	204 m	670 ft
101 to 1,000 . . . . .	380 m	1,250 ft
1,001 to 10,000 . . . . .	530 m	1,730 ft
10,001 to 30,000 . . . . .	690 m	2,260 ft

Section Q: CHEMICAL, PHYSICAL AND BIOLOGICAL TREATMENT (Part 265, Subpart Q)

	YES	NO	NI	REMARKS
1. Is equipment used to treat only those wastes which will not cause leakage, corrosion, or premature failure?	_____	_____	_____	_____
2. Is a continuously fed system equipped with a means of hazardous waste inflow stoppage or control (e.g., cut-off system)?	_____	_____	_____	_____
3. Has the owner or operator addressed the waste analysis requirements of 265.402?	_____	_____	_____	_____
<input type="checkbox"/> <i>analysis for hazardous character;</i> <input type="checkbox"/> <i>placed in operating record</i>				
4. Are inspection procedures followed according to 265.403?	_____	_____	_____	_____
<input type="checkbox"/> <i>discharge control equipment,</i> <i>every day</i> <input type="checkbox"/> <i>monitoring equipment, every</i> <i>day</i> <input type="checkbox"/> <i>construction materials,</i> <i>every week</i> <input type="checkbox"/> <i>dikes, etc., every week</i>				
5. Are the special requirements fulfilled for ignitable or reactive wastes?	_____	_____	_____	_____
6. Are incompatible wastes treated? (If yes, 265.17(b) applies.)	_____	_____	_____	_____

Note: EPA has temporarily suspended the applicability of the requirements of the hazardous waste regulations in 40 CFR Parts 122, 264 and 265 to owners and operators of (1) wastewater treatment tanks that receive, store, and treat wastewaters that are hazardous waste or that generate, store, or treat a wastewater sludge which is a hazardous waste where such wastewaters are subject to regulation under Sections 402 or 307(b) of the Clean Water Act (33 U.S.C. 1251 et seq.) and (2) neutralization tanks, transport vehicles, vessels, or containers which neutralize wastes which are hazardous only because they exhibit the corrosivity characteristics under 40 CFR §261.22, or are listed as hazardous wastes in Subpart D of 40 CFR Part 261 only for this reason.

# APPENDIX GN

## Section A: SCOPE

1. Complete this Appendix if the owner or operator of a TSD facility also generates hazardous waste that is subsequently shipped off-site for treatment, storage, or disposal.

## Section B: MANIFEST REQUIREMENTS (Part 262, Subpart B)

	YES	NO	NI	REMARKS
1. Does the operator have copies of the manifest available for review?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Examine manifests for shipments in past 6 months. Indicate approximate number of manifested shipments during that period. <u>1</u> <i>3 shipment per year</i>				
3. Do the manifest forms examined contain the following information: (If possible, make copies of, or record information from, manifest(s) that do not contain the critical elements.)				
a. Manifest document number?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
b. Name, mailing address, telephone number, and EPA ID number of Generator?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
c. Name and EPA ID number of Transporter(s)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
d. Name, address, and EPA ID number designated permitted facility and alternate facility.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
e. The description of the waste(s) (DOT shipping name, DOT hazard class, DOT identification number)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
f. The total quantity of waste(s) and the type and number of containers loaded?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
g. Required certification?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
h. Required signatures?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

YES NO NI REMARKS

4. Reportable exceptions

- a. For manifests examined in (2) (except for shipments within the last 35 days, enter the number of manifests for which the generator has NOT received a signed copy from the designated facility within 35 days of the date of shipment. NA
- b. For manifests indicated in (4a), enter the number for which the generator has submitted exception reports (40 CFR 262.42) to the Regional Administrator. NA

Section C: PRE-TRANSPORT REQUIREMENTS (Part 262, Subpart C)

1. Is waste packaged in accordance with DOT regulations? (Required prior to movement of hazardous waste off-site.) ✓ - - -
2. Are waste packages marked and labeled in accordance with DOT regulations concerning hazardous waste materials? (Required for movement of hazardous waste off-site.) - - - Unknown, no hazardous wastes were ready for shipment.
3. If required, are placards available to transporters of hazardous waste? ✓ - - -
4. On-site accumulation of generated hazardous wastes. A HWMF may accumulate hazardous waste it generates either (A) in its storage facility [265.1(b)] or (B) in accordance with 40 CFR 262.34 [see 265.1(c)(7)]. Option B restricts all accumulation to tanks and containers. If the installation elects Option A, check here X and skip to Section D. If the installation elects Option B, complete the following observations:
- a. Is each container clearly marked with the start of accumulation date? - - -
- b. Have more than 90 days elapsed since the date inspected in (a)? - - -
- c. Do wastes remain in accumulation tanks for more than 90 days? - - -
- d. Is each container and tank labeled or marked clearly with the words "Hazardous Waste"? X - - -

Section D: RECORDKEEPING AND REPORTING (Part 262, Subpart D)

YES NO NI REMARKS

1. Are all test results and analyses needed for hazardous waste determinations retained for at least three years?

X         

Section E: INTERNATIONAL SHIPMENTS (Part 262, Subpart E)

1. Has the installation imported or exported hazardous waste?

      X   

(If answered Yes, complete the following as applicable.)

- a. Exporting hazardous waste; has a generator:

- i. Notified the Administrator in writing?

- ii. Obtained the signature of the foreign consignee confirming delivery of the waste(s) in the foreign country?

- iii. Met the manifest requirements?

- b. Importing hazardous waste; has the generator met the manifest requirements?



# APPENDIX TR

## Section A: SCOPE:

	YES	NO	NI	REMARKS
1. Complete this Appendix if the owner or operator transports hazardous waste subject to 40 CFR 263.10. (i.e., transport off-site)				
2. Does the transporter transport hazardous waste into the U.S. from abroad?	_____	_____	_____	_____
3. Does the transporter transport hazardous waste out from the U.S.?	_____	_____	_____	_____
4. Does the transporter mix hazardous waste of different DOT shipping descriptions by placing them into a single container?	_____	_____	_____	_____

## Section B: MANIFEST SYSTEM AND RECORDKEEPING (Part 263, Subpart B)

1. Are copies of <u>completed</u> manifests available for review and retained for three years?	_____	_____	_____	_____
2. Estimate the number of manifests for shipments completed during the past 6 months.	_____			
3. Examine a representative number of manifests. Indicate number examined.	_____			
4. Did transporter properly sign and date the manifests examined?	_____	_____	_____	_____
5. Do any manifests indicate shipments delivered to other than the designated facility?	_____	_____	_____	_____
If (5) is "no," skip 6 and 7.				
6. Do any manifests indicate shipments delivered to other than an alternate facility?	_____	_____	_____	_____
7. Are shipments delivered to alternate facilities <u>only</u> because emergency prevents delivery to the designated facility?	_____	_____	_____	_____

Section A: Scope of Inspection

Standards for generators of HAZARDOUS WASTE subject to 40 CFR 262.10.

Section B: MANIFEST REQUIREMENTS (Part 262, Subpart B)

	YES	NO	NI	REMARKS
1. Does the generator have copies of the manifest available for review?	_____	_____	_____	_____
2. Examine manifests for shipments in past 6 months. Indicate approximate number of manifested shipments during that period.	_____	_____	_____	_____
3. Do the manifest forms examined contain the following information? (If possible, make copies of, or record information from, manifests that do not contain the critical elements.)	_____	_____	_____	_____
a. Manifest document number?	_____	_____	_____	_____
b. Name, mailing address, telephone number, and EPA ID number of generator?	_____	_____	_____	_____
c. Name and EPA ID number of transporter(s)?	_____	_____	_____	_____
d. Name, address, and EPA ID number of designated permitted facility and alternate facility?	_____	_____	_____	_____
e. The description of the waste(s) (DOT shipping name, DOT hazard class, DOT identification number)?	_____	_____	_____	_____
f. The total quantity of waste(s) and the type and number of containers loaded?	_____	_____	_____	_____
g. Required certification?	_____	_____	_____	_____
h. Required signatures?	_____	_____	_____	_____

YES NO NI REMARKS

4. Reportable exceptions

- a. For manifests examined in (2) (except for shipments within the last 35 days), enter the number of manifests for which the generator has NOT received a signed copy from the designated facility within 35 days of the date of shipment. \_\_\_\_\_
- b. For manifests indicated in (4a), enter the number for which the generator has submitted exception reports (40 CFR 262.42) to the Regional Administrator. \_\_\_\_\_

Section C: PRE-TRANSPORT REQUIREMENTS (Part 262, Subpart C)

	YES	NO	NI	REMARKS
1. Is waste packaged in accordance with DOT regulations? (Required prior to movement of hazardous waste off-site.)	___	___	___	_____
2. Are waste packages marked and labeled in accordance with DOT regulations concerning hazardous waste material? (Required prior to movement of hazardous waste off-site.)	___	___	___	_____
3. If required, are placards available to transporter?	___	___	___	_____
*4. Pre-shipment Accumulation				
*Applies only to GENERATORS that store hazardous waste on-site for 90 days or less without a permit. These items do not apply to generators whose waste is immediately transported off-site.				
a. Is hazardous waste accumulated in containers? If no, skip to b.	___	___	___	_____
i. Is each container clearly marked with the date on which the period of accumulation began?	___	___	___	_____
ii. Have more than 90 days elapsed since the dates marked?	___	___	___	_____
iii. Is each container labeled or marked clearly with the words "Hazardous Wastes?"	___	___	___	_____
iv. Are containers in good condition?	___	___	___	_____
v. Are containers compatible with waste in them?	___	___	___	_____
vi. Are containers managed to prevent leaks?	___	___	___	_____
vii. Are containers stored closed?	___	___	___	_____

	YES	NO	NI	REMARKS
viii. Are containers inspected weekly for leaks and defects?	_____	_____	_____	_____
ix. Are ignitable and reactive wastes stored at least 15 meters (50 feet) from the facility property line? (Indicate if waste is ignitable or reactive.)	_____	_____	_____	_____
x. Are incompatible wastes stored in separate containers? (If not, the provisions of 40 CFR 265.17(b) apply.)	_____	_____	_____	_____
xi. Are containers of incompatible waste separated or protected from each other by physical barriers or sufficient distance?	_____	_____	_____	_____
b. Is hazardous waste accumulated in tanks? If no, skip to c.	_____	_____	_____	_____
i. Is each tank labeled or marked clearly with the words "Hazardous Wastes"?	_____	_____	_____	_____
ii. Are tanks used to store only those wastes which will not cause corrosion, leakage or premature failure of the tank?	_____	_____	_____	_____
iii. Do uncovered tanks have at least 60 cm (2 feet) of freeboard or dikes or other containment structures?	_____	_____	_____	_____
iv. Do continuous feed systems have a waste-feed cutoff?	_____	_____	_____	_____
v. Are waste analyses done before the tanks are used to store a substantially different waste than before?	_____	_____	_____	_____
vi. Are required daily and weekly inspections done?	_____	_____	_____	_____

YES NO NI REMARKS

vii. Are reactive and ignitable wastes in tanks protected or rendered non-reactive or non-ignitable? Indicate if waste is ignitable or reactive. (If waste is rendered non-reactive or non-ignitable, see treatment requirements.)

\_\_\_\_\_

viii. Are incompatible wastes stored in separate tanks? (If not, the provisions of 40 CFR §265.17(b) apply.)

\_\_\_\_\_

ix. Has the owner or operator observed the National Fire Protection Association's buffer zone requirements for tanks containing ignitable or reactive wastes?

Tank capacity: \_\_\_\_\_ gallons

Tank diameter: \_\_\_\_\_ feet

Distance of tank from property line: \_\_\_\_\_ feet

(see Tables 2-1 through 2-6 of NFPA/s "Flammable and Combustible Liquids Code - 1977" to determine compliance.)

c. Is hazardous waste accumulated in other than tanks or containers?

\_\_\_\_\_

d. Personnel training:

Do personnel training records include:

i. Job titles?

\_\_\_\_\_

ii. Job descriptions?

\_\_\_\_\_

iii. Description of training?

\_\_\_\_\_

iv. Records of training?

\_\_\_\_\_

v. Did personnel receive the required training by 5/19/81?

\_\_\_\_\_

	YES	NO	NI	REMARKS
vi. Do new personnel receive required training within six months?	_____	_____	_____	_____
vii. Do personnel training records indicate that personnel have taken part in an annual review of initial training?	_____	_____	_____	_____
e. Preparedness and prevention:				
i. Maintenance and operation of facility:				
Is there any evidence of fire, explosion, or release of hazardous waste or hazardous waste constituent?	_____	_____	_____	_____
ii. If required, does this facility have the following equipment:				
Internal communications or alarm systems?	_____	_____	_____	_____
Telephone or 2-way radios at the scene of the operations?	_____	_____	_____	_____
Portable fire extinguishers, fire control, spill control equipment and decontamination equipment?	_____	_____	_____	_____
Indicate the volume of water and/or foam available for fire control:				
_____				
_____				
iii. Testing and maintenance of emergency equipment:				
Has the owner or operator established testing and maintenance procedures for emergency equipment?	_____	_____	_____	_____

	YES	NO	NI	REMARKS
Is emergency equipment maintained in operable condition?	_____	_____	_____	_____
iv. Has owner/operator provided immediate access to internal alarms (if needed)?	_____	_____	_____	_____
v. Is there adequate aisle space for unobstructed movement?	_____	_____	_____	_____
vi. Has the owner or operator attempted to make arrangements with local authorities in case of an emergency at the facility?	_____	_____	_____	_____
f. Contingency plan and emergency procedures:				

Does the contingency plan contain the following information:

- i. The actions facility personnel must take to comply with §265.51 and 265.56 in response to fires, explosions, or any unplanned release of hazardous waste? (If the owner has a Spill Plan, Plan, he needs only to amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this part (as applicable).)

§265.51 - minimize hazards to health/environment due to release

§265.56 - emergency actions and procedures



	YES	NO	NI	REMARKS
ii. Arrangements agreed to by local police departments, hospitals, contractors, and state and local emergency response teams to coordinate emergency services, pursuant to §265.37?	_____	_____	_____	_____
- if arrangements are refused, this <u>must</u> be documented				
iii. Names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator?	_____	_____	_____	_____
iv. A list of all emergency equipment at the facility which includes the location and physical description of each item on the list, and a brief outline of its capabilities?	_____	_____	_____	_____
v. An evacuation plan for facility personnel where there is a possibility that evacuation could be necessary? (This plan must describe signal(s) to be used to begin evacuation, evacuation routes and alternate evacuation routes.)	_____	_____	_____	_____
vi. Are copies of the Contingency Plan available at site and local emergency organizations?	_____	_____	_____	_____
vii. Is the facility emergency coordinator identified?	_____	_____	_____	_____
viii. Is coordinator familiar with all aspects of site operation and emergency procedures?	_____	_____	_____	_____

	YES	NO	NI	REMARKS
ix. Does the Emergency Coordinator have the authority to carry out the Contingency Plan?	_____	_____	_____	_____
x. If an emergency situation has occurred at this facility, has the Emergency Coordinator followed the emergency procedures listed in 256.56?	_____	_____	_____	_____

Section D: RECORDKEEPING AND REPORTING (Part 262, Subpart D)

	YES	NO	NI	REMARKS
1. Are all test results and analyses needed for hazardous waste determinations retained for at least three years?	_____	_____	_____	_____

Section E: INTERNATIONAL SHIPMENTS (Part 262, Subpart E)

1. Has the installation imported or exported hazardous waste? If "no," skip a and b.	_____	_____	_____	_____
a. Exporting hazardous waste, has a generator:				
i. Notified the Administrator in writing?	_____	_____	_____	_____
ii. Obtained the signature of the foreign consignee confirming delivery of the waste(s) in the foreign country?	_____	_____	_____	_____
iii. Met the manifest requirements?	_____	_____	_____	_____
b. Importing hazardous waste, has the generator met the manifest requirements?	_____	_____	_____	_____

Remarks: This report was based on  
the site visits conducted by David Duell  
of Ohio EPA on 12/2/83 and 7/22/81.



Department of Energy  
Albuquerque Operations  
Dayton Area Office  
P.O. Box 66  
Miamisburg, Ohio 45342

MAR 07 1986

Mr. David A. Stringham  
Chief, Solid Waste Branch  
RCRA Activities  
P. O. Box A3587  
Attention: ATKJG  
Chicago, Illinois 60690

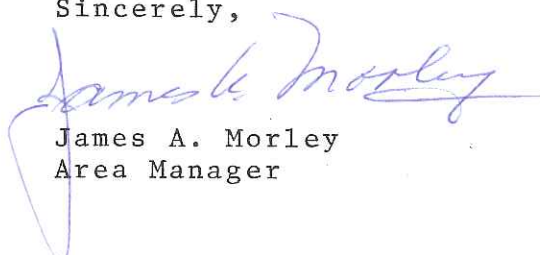
Dear Mr. Stringham:

In accordance with your request attached is a copy of the Certification Regarding Potential Releases From Solid Waste Management Units.

In preparing the attached information on the basis of the instructions provided, we concluded that radioactive materials which contain RCRA hazardous waste or Appendix VIII hazardous constituents are excluded from this certification response.

If you have any questions, please contact D. S. Ingle, FTS 774-3597 or (513) 865-3597.

Sincerely,

  
James A. Morley  
Area Manager

Attachment: 1 cy

cc: M. G. Wilson, OCC/AL, w/cy  
C. L. Soden, ES&HD/AL, w/cy  
R. A. Neff, MRC, w/o cy

428-46

CERTIFICATION REGARDING POTENTIAL RELEASES FROM  
SOLID WASTE MANAGEMENT UNITS

FACILITY NAME: U.S. DOE MOUND  
 EPA I.D. NUMBER: OH 6890008984  
 LOCATION CITY: MIAMISBURG  
 STATE: OHIO 45342

1. Are there any of the following solid waste management units (existing or closed) at your facility? NOTE - DO NOT INCLUDE HAZARDOUS WASTE UNITS CURRENTLY SHOWN IN YOUR PART A APPLICATION

	<u>YES</u>	<u>NO</u>
• Landfill . . . . .	<u>X</u>	<u>      </u>
• Surface Impoundment . . . . .	<u>X</u>	<u>      </u>
• Land Farm . . . . .	<u>      </u>	<u>X</u>
• Waste Pile . . . . .	<u>      </u>	<u>X</u>
• Incinerator . . . . .	<u>      </u>	<u>X</u>
• Storage Tank (Above Ground) . . . . .	<u>      </u>	<u>X</u>
• Storage Tank (Underground) . . . . .	<u>      </u>	<u>X</u>
• Container Storage Area . . . . .	<u>X</u>	<u>      </u>
• Injection Wells . . . . .	<u>      </u>	<u>X</u>
• Wastewater Treatment Units . . . . .	<u>      </u>	<u>X</u>
• Transfer Stations . . . . .	<u>      </u>	<u>X</u>
• Waste Recycling Operations . . . . .	<u>      </u>	<u>X</u>
• Waste Treatment, Detoxification . . . . .	<u>      </u>	<u>X</u>
• Other _____	<u>      </u>	<u>      </u>

2. If there are "Yes" answers to any of the items in Number 1 above, please provide a description of the wastes that were stored, treated or disposed of in each unit. In particular, please focus on whether or not the wastes would be considered as hazardous wastes or hazardous constituents under RCRA. Also include any available data on quantities or volume of wastes disposed of and the dates of disposal. Please also provide a description of each unit and include capacity, dimensions and location at facility. Provide a site plan if available.

The following solid waste management units are described on  
attached table and located on attached site plan: (1) engineered  
landfill; (2) stagnant water area; (3) leach bed; (4) settling  
basin and pond; and (5) field drum storage area.

NOTE: Hazardous wastes are those identified in 40 CFR 261. Hazardous constituents are those listed in Appendix VIII of 40 CFR Part 261.

3. For the units noted in Number 1 above and also those hazardous waste units in your Part A application, please describe for each unit any data available on any prior or current releases of hazardous wastes or constituents to the environment that may have occurred in the past or may still be occurring.

Please provide the following information

- a. Date of release
- b. Type of waste released
- c. Quantity or volume of waste released
- d. Describe nature of release (i.e., spill, overflow, ruptured pipe or tank, etc.)

No known prior or current releases of hazardous wastes or  
constituents to the environment

4. In regard to the prior or continuing releases described in Number 3 above, please provide (for each unit) any analytical data that may be available which would describe the nature and extent of environmental contamination that exists as a result of such releases. Please focus on concentrations of hazardous wastes or constituents present in contaminated soil or groundwater.

Not applicable

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the submittal is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. (42 U.S.C. 6902 et seq. and 40 CFR 270.11(d))

James A. Morley

Typed Name and Title

Manager, DOE, Area Office

  
Signature

3-3-86

Date

SOLID WASTE MANAGEMENT UNITS NOT SHOWN ON PART A APPLICATION

<u>UNIT DESCRIPTION</u>	<u>CAPACITY/SIZE</u>	<u>MAP LOCATION</u>	<u>DATE USED</u>	<u>MATERIALS HANDLED</u>	<u>WASTE QUANTITY</u>	<u>RCRA HAZARDOUS</u>
(1) Engineered landfill	100,000 yd <sup>3</sup>	I	1948-1970	Refuse, construction material, solvents, paints, photo waste, plating bath waste	1000 ft <sup>3</sup>	Yes
(2) Stagnant water area	Approx. 150 ft diameter	II	Mid 1950's	Lithium (probably carbonate) wastes; perhaps other wastes too.	Unknown	Uncertain
(3) Leach bed	15,500 ft <sup>2</sup>	III	1960-65	Caustic/acid solu- tions, contaminated w/plutonium	Unknown	Yes, if corrosive
(4) Settling basin and pond	Basin approx. 90 ft <sup>3</sup> ; pond approx. 50 yd <sup>3</sup>	IV	To early 1985	Solvent-water con- taining trace amounts explosives	1000 gal/yr	Yes
(5) Field drum storage area	Approx. 3200 ft <sup>2</sup>	V	To mid- 1985	Solvents, corrosives, various other wastes	Approx. 20,000 gal	Yes



